In Two Parts—Part 1

Industrial Standardization

Charles E. Wilson
Chairman of New Standards Committee

February 1945

American Standards Association

Officers

Henry B. Bryans, President
George S. Case, Vice-President
P. G. Agnew, Secretary
Cyril Ainsworth, Assistant Secretary

Board of Directors

J. T. Barron, vice-president, Public Service Electric and Gas Company, Newark, New Jersey—American Institute of Electrical Engineers

Carl Breer, executive engineer, Chrysler Corporation, Detroit, Michigan—Automobile Manufacturers Association

Lyman J. Briggs, director, National Bureau of Standards, Washington, D. C.—U. S. Department of Commerce

Henry B. Bryans, executive vice-president, Philadelphia Electric Company, Philadelphia, Pennsylvania—Electric Light and Power Group

G. S. Case, chairman of board, Lamson and Sessions Company, Cleveland, Ohio—Vice-President

Howard Coonley, chairman of board, Walworth Company, New York—Manufacturers Standardization Society of the Valve & Fittings Industry

Wallace Falvey, vice-president, Massachusetts Bonding and Insurance Company, New York—National Conservation Bureau

Robert G. Griswold, president, Electric Advisors, Inc, New York—American Gas Association

Frederick R. Lack, vice-president, Western Electric Company, Inc, New York—Institute of Radio Engineers

Clifton E. Mack, director, Procurement Division, U. S. Treasury Department, Washington, D. C.—U. S. Treasury Department

Harold H. Morgan, chief engineer, Robert W. Hunt Company, Chicago—American Society for Testing Materials

H. S. Osborne, chief engineer, American Telephone & Telegraph Company, New York—Chairman, ASA Standards Council

R. L. Pearson, vice-president, New York, New Haven & Hartford Railroad Company, New Haven, Conn.—Association of American Railroads

Willits H. Sawyer, president, Peoples Transit Company of Dayton, Ohio, New York—American Transit Association

Ole Singstad, chief engineer, New York City Tunnel Authority, New York—American Society of Civil Engineers

Alvah Small, president, Underwriters' Laboratories, Inc, Chicago, Ill.—ASA Fire Protection Group

George H. Taber, Jr, president, Sinclair Refining Company, New York—American Petroleum Institute

R. E. Zimmerman, vice-president, U. S. Steel Corporation, New York—Past President

Standards Council

H. S. Osborne, chief engineer, American Telephone & Telegraph Company, New York, Chairman
E. C. Crittenden, assistant director, National Bureau of Standards, Vice-Chairman

Chairmen of Correlating Committees

Building—George N. Thompson, chief, Building Code Section, Division of Codes and Specifications, National Bureau of Standards, Washington, D. C.

Consumer—Irwin D. Wolf, vice-president, Kaufmann Department Stores, Inc, Pittsburgh, Pennsylvania

Electrical—C. R. Harte, Connecticut Company, New Haven, Connecticut

Highway Traffic—Hawley S. Simpson, research engineer, American Transit Association, New York

Mechanical—Alfred Iddles, application engineer, Babcock & Wilcox Company, New York

Mining—Dan Harrington, chief, Health & Safety Service, U. S. Bureau of Mines, Washington, D. C.

Safety—W. R. Smith, safety engineer, Public Service Electric & Gas Company, Newark, N. J.

ASA Member-Bodies

Am. Gas Assn.
Am. Institute of Bolt, Nut & Rivet Mfrs
Am. Institute of Electrical Engineers
Am. Institute of Steel Construction, Inc
Am. Iron & Steel Institute
Am. Petroleum Institute
Am. Soc of Civil Engineers
Am. Soc of Mechanical Engineers
Am. Soc for Testing Materials
Am. Soc of Tool Engineers, Inc
Am. Transit Assn
Am. Water Works Assn
Assn of American Railroads
Automobile Mfrs Assn
Cast Iron Pipe Research Assn
Copper & Brass Research Assn
Electric Light and Power Group:
  Assn of Edison Illuminating Companies
  Edison Electric Institute
Federal Works Agency
Fire Protection Group:
  Associated Factory Mutual Fire Insurance Companies
  Nat Bd of Fire Underwriters
  Nat Fire Protection Assn
  Underwriters' Laboratories, Inc
Institute of Radio Engineers
Lumber Mfrs Group:
  Timber Engg Co (Subsidiary of Nat Lumber Mfrs Assn)
Mfrs Standardization Soc of the Valve and Fittings Industry
Metal Cutting Tool Institute
Nat Assn of Mutual Casualty Companies
Nat Conservation Bureau
Nat Electrical Mfrs Assn
Nat Housing Agency
Nat Machine Tool Builders' Assn
Nat Safety Council
Outdoor Advertising Assn of America, Inc
Photographic Mfrs Group:
  Ansco Division of General Aniline & Film Corporation
  Eastman Kodak Company
Radio Mfrs Assn
Soc of Automotive Engineers, Inc
Telephone Group:
  Bell Telephone System
U.S. Department of Agriculture
U.S. Department of Commerce
U.S. Department of the Interior
U.S. Department of Labor
U.S. Govt Printing Office
U.S. Navy Department
U.S. Treasury Department
U.S. War Department

Associate Members

Am. Assn of Textile Chemists and Colorists
Am. Council of Commercial Laboratories
Am. Gear Mfrs Assn
Am. Home Economics Assn
Am. Hospital Assn
Am. Institute of Architects
Am. Soc of Heating & Ventilating Engineers
Am. Soc of Refrigerating Engineers
Am. Trucking Assns, Inc
Am. Welding Society
Anti-Friction Bearing Mfrs Assn, Inc
Asphalt Roofing Industry Bureau
Associated General Contractors of America, Inc
Assn of Gas Appliance and Equipment Mfrs
Assn of Iron and Steel Engineers
Com on Consumer Relations in Advertising, Inc
Douglas Fir Plywood Assn
Grinding Wheel Mfrs Assn
Gypsum Assn
Heat Exchange Institute
Illuminating Engineering Society
Industrial Safety Equipment Assn
Insulation Board Institute
Internat Acetylene Assn
Modular Service Assn
National Assn of Finishers of Textile Fabrics
Nat Assn of Wool Mfrs
Nat Elevator Manufacturing Industry, Inc
National Federation of Textiles, Inc.
Nat Lime Assn
Nat Retail Dry Goods Assn
Research Council of the Academy of Motion Picture Arts and Sciences
Shoe Shank Mfrs Defense Group
Soc of Motion Picture Engineers
Structural Clay Products Institute
Textile Color Card Assn of the U.S., Inc
U.S. Cap Screw Service Bureau
U.S. Machine Screw Service Bureau

Company Members—Some 2,000 Industrial concerns hold membership either directly or by group arrangement through their respective trade associations

Industrial
Standardization

Published Monthly by

American Standards Association

70 East 45th Street, New York 17, N. Y.

RUTH E. MASON, Editor

Part 1

Our Front Cover: Charles E. Wilson, president of General Electric Company, is chairman of new committee appointed by the Secretary of Commerce to advise both industry and government on future standards policies.

This Issue

Page

Government and Industry Relations

Government-Industry Standards Policies Discussed by Industry Leaders 29
Letter of Invitation to the Conference 30
Standards in Commerce—A Basis for Action. Report by Carroll L. Wilson 31

Association and Government Standards

Standards Issued by Associations and Government .. 48

Electrical

Obsolete Material Deleted from Wire and Cable Standards 46

From Other Countries

New Standards from Other Countries 36
Chilean Standards Institute Completes Organization. 44
Dr. Torres Re-elected President of Brazilian Standards Association 46

Lumber

Standards for Laminated Lumber Now in Preparation 36

Mechanical

Changes and Additions to Code for Pressure Piping. 46

Miscellaneous

Lay That Slide Rule Down, Lads; Your Country Calls for Diction! 39
ASTM Committee Week Cancelled, Spring Meeting Deferred 44

Petroleum

ASTM Compiles Volume of Petroleum Standards ... 49

Page

Photography

Picture-Taking Qualities Guide Buying of Flash Lamps. By R. E. Farnham 37
Standard Motion Picture Nomenclature Saves Time, Avoids Confusion. By Captain L. T. Goldsmith; D. E. Hyndman; W. F. Kelley; Wesley C. Miller 45

Safety

Work on X-Ray Safety Arouses Wide Interest 47
Committee Asks Comments on Draft of Safety Color Code 51

Textile

How Should Laboratory Tests Be Used in Post-War Textile Programs? By A. G. Ashcroft 41

American Standards Association

Personnel

Three New Members of ASA Board of Directors 35
Dr. Anderson Retires 36
ASA Public Relations Director Dies of Heart Attack 44
Eight New Members Join ASA 46
New Members and Alternates on ASA Standards Council 51

Service to Members

Application for New Standards 40

Standards Activities

American Standards 50
American War Standards 50
News About ASA Projects 51

The Pictures—Frontispiece; 37, 45—Signal Corps Photos; 47—General Electric.

Part 2

Index to Volume 15, 1944, INDUSTRIAL STANDARDIZATION

ASA

Reg. in U.S. Pat. Off.

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

Subscription price $4.00 per year (foreign $5.00); Special to schools and libraries $2.00 (foreign $3.00); single copies 35 cents

February, 1945

Re-entered as Second Class Matter July 31, 1943, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

Vol. 16, No. 2

A Signal Corps cameraman somewhere in Europe—the Signal Corps is now using the new American War Standard for the purchase of photographic flash lamps.

(Article page 37)

Government-Industry Standards Policies Discussed by Industrial Leaders

50 industrial executives, called together by Secretary of Commerce, recommend different functions for Government and industry in standardization activities; base discussion on federal report stressing need for action; Charles E. Wilson heads committee to advise on future program

NOTE.—Following is a summary of the recommendations of the conference and the complete text of the letter of invitation signed by the Visiting Committee of the National Bureau of Standards, as well as the report to the Secretary of Commerce by Carroll L. Wilson. These documents give in detail the reasons for the conference and the background on which the discussion was based.—ED.

FIFTY industrial executives, meeting at the call of the Secretary of Commerce January 12, made recommendations to the Secretary in regard to the relative roles which should be played by Government and industry in post-war standards activities.

The discussions in the conference revolved largely around three fundamental questions:

1. Will standards play an increasingly important and expanded role in our national economy?

2. What should be the relative roles of Government and industry in standardization activities?

3. Is a substantial increase in standards for consumer goods to be expected in the post-war era?

The conference took the following formal action:

Resolved, That in the opinion of the Conference, the rapid growth of standards activities, their extension into new fields, and the bearing of standards upon production and sale all make it important for top management to give attention to this matter and to provide for its orderly development.

Resolved, That this Conference endorses in principle the report entitled *Standards in Commerce—A Basis for Action*, submitted to the Secretary of Commerce by Mr. Carroll L. Wilson.

Resolved, That the National Bureau of Standards can increase the value of its services to industry by strengthening its work on the fundamental standards and methods of measurement and on the development of data needed in standardization activities.

Resolved, That the Conference notes with approval the steps taken by the American Standards Association to broaden the scope of its work so that it may deal with any standard or standardization project, whether in the field of engineering or consumer goods or in any other field which deserves national recognition.

Resolved, That in the field of consumer goods, just as in other fields, each standard approved by the ASA must represent the work of those groups which are concerned with its scope and provisions; and no effort must be made to impose standards on them.

Resolved, That this Conference expresses its readiness to reconvene and to be of further service to the Secretary of Commerce, if requested.

It was the view of the conference that industry should take a strong leadership in the increased standards activities which are bound to follow the enormous industrial expansion of the United States—and especially in those activities which involve negotiation, opinion, judgment, and compromise. It was the consensus of opinion that there should be full cooperation on the part of the Federal Government. As expressed by Carroll Wilson, Consultant to the U. S. Department of Commerce, in a report prepared for the Secretary of Commerce (and which was endorsed in principle by the conference):

"The public should look primarily to business rather than Government, to evolve the performance data it will want. Likewise, standards development should follow the voluntary agreement process as its main channel. For this work . . . government agencies can provide facts, measurements, and technical assistance; these will be their best contributions."

Much of the discussion in the conference was devoted to standards for consumer goods, it being the general view that the post-war years will see extensive develop-

Charles E. Wilson Heads Policy Committee on Standards

Charles E. Wilson, president of General Electric Company, was appointed by the Secretary of Commerce to head the new committee which will work with the American Standards Association and the Department of Commerce to make plans for a greatly expanded post-war program on national standards. Mr. Wilson returned to the General Electric Company recently, after having served as executive vice-chairman of the War Production Board.

Other members of the committee are:

Frederick M. Feiker, dean of engineering, George Washington University
Clarence Francis, chairman of the Board, General Foods Corporation
Ephraim Freedman, R. H. Macy & Company, Inc
Frank B. Jewett, president, National Academy of Sciences
William B. Warner, president, McCall Corporation
Arthur D. Whiteside, president, Dun & Bradstreet, Inc
R. E. Zimmerman, vice-president, U. S. Steel Corporation

n.ents in this field which will require the full participation of all interests, including those of the consumer.

One member of the conference said, in effect, this part of the discussion could be summarized by the statement that, "However much we have differed on details, there is one point upon which there has been unanimous agreement, namely: That our customers are entitled to full information in regard to the products they buy from us."

Conference Notes "With Approval"

Not only did the conference "note with approval" the steps taken by the American Standards Association to broaden the field of its activities, but it was the general view that present fields would have to be cultivated more intensively; and further, that arrangements should be made for participation and support on a broader basis—both by organized groups and by individual companies—in the work of the ASA.

The conference recommended the appointment of a committee by the Secretary of Commerce "to advise with the president of the ASA in regard to the recommendations of this conference and the steps to be taken to effectuate these recommendations and thereafter to report to the Secretary of Commerce through the Visiting Committee."

Committee Appointed

In accordance with this resolution, Wayne C. Taylor, Under Secretary of Commerce, appointed the following committee:

Charles E. Wilson, President, General Electric Company, *Chairman*
Frederick M. Feiker, dean of engineering, George Washington University
Clarence Francis, chairman of the Board, General Foods Corporation
Ephraim Freedman, R. H. Macy & Company, Inc.
Frank B. Jewett, president, National Academy of Sciences
William B. Warner, president, McCall Corporation
Arthur D. Whiteside, president, Dun & Bradstreet, Inc
R. E. Zimmerman, vice-president, U. S. Steel Corporation

Letter of Invitation to the Conference

THE SECRETARY OF COMMERCE
WASHINGTON 25

December 15, 1944

DEAR SIR:

At the request and in the name of the Secretary of Commerce of the United States, you are hereby invited by the Visiting Committee of the National Bureau of Standards to attend a "Conference on Standardization" at the University Club, One West Fifty-Fourth Street, New York, on Friday, January 12, 1945, at 10:00 A. M.

This conference is called to consider a report to the Secretary of Commerce dated December 3, 1943, and revised September 15, 1944, by Mr. Carroll L. Wilson, Consultant to the Secretary of Commerce, entitled *Standards in Commerce—a Basis for Action*, of which a copy, which speaks for itself, is enclosed.

This invitation is issued to a relatively few leaders interested in standardization, for the purpose of recommending action that will meet a large volume of criticism received by the Department of Commerce, leveled at alleged inadequacy of function and lack of coverage by the existing organizations in the standardization field.

Many of the criticisms urge the Department of Commerce to take over and enlarge as a government function the work of standardization hitherto performed by private bodies, principally the American Standards Association and its participating and cooperating agencies. There has been a strong demand for the provision of performance standards for consumer goods and standards in fields not hitherto covered.

This demand has arisen partly as a result of charges of inefficiency against existing standardizing bodies, and partly as a result of the enormous industrial expansion of the United States, which by the creation of new articles and new materials and the great recent progress in science and invention, has called for a corresponding expansion of the function of standardization. It has taken place more rapidly than the facilities for dealing with it have been expanded by the private bodies now in the field.

Since the report of December 3, 1943, was first written, the American Standards Association (hereafter referred to as the ASA) and other private bodies in the field have taken cognizance of these demands, and, at a meeting on May 19, 1944, under the vigorous leadership of Mr. Henry B. Bryans, president of the ASA, aided by Mr. Harold S. Osborne, chairman of the Standards Council, and its newly created Planning Committee, the Directors of the ASA took the following action:

> "*Resolved*, That in the opinion of the Board, because of the growing importance of standards for consumer goods, the scope and work of the ASA be broadened and clarified by removing the present restrictions which limit the work of the ASA to the engineering field; and that the ASA should be so organized that it can handle any standard or standardization project which deserves national recognition, whether in the field of engineering, accounting, business practice, or consumer goods."

On the same date, other resolutions were adopted proposing basic changes in the Constitution of the ASA to implement the above resolution of policy, and to bring about the necessary changes in the structure of the ASA. These changes are designed to adapt it, in a broadened field of standardization, to become an agency which the Department of Commerce feels is essential to meet the rapidly growing demand for enlarged standardization services.

Proposals had been received by the Department of Commerce that the Bureau of Standards should become the chief factor in such an agency, but these proposals have not been encouraged in view of the many representations in harmony with the views of the Visiting Committee, that such a function for the Bureau would impair its scientific

work and the success and prestige with which it has in the past devoted itself to the creation and development of standards of exact measurement in the field of the physical sciences.

Stress was laid upon the view of the Visiting Committee, which was created by Congress to watch over and advise on the operations of the Bureau, that the true function of the National Bureau of Standards lay in that domain of standardization that rested upon exact physical measurement, and not on such standardization as involved negotiations, opinion, judgment, and compromise. This view may ultimately involve the transfer out of the Bureau of Standards of its present Division of Trade Standards and Simplified Practice into the Department of Commerce, there to be operated as a part of the Bureau of Foreign and Domestic Commerce, or otherwise provided for.

So complete was the recognition by the ASA of the national need for the additional functions that, with the Department's approval, a general conclusion was reached that, provided suitable procedure was developed and suitable progress was made, the reorganization in the field of standardization could now safely be left to the leadership of the ASA itself, subject to the guidance and advice of the Department in respect to the extent to which the reorganization met the requirements which, in its opinion, the public interest demanded.

It is recognized that effective private control and leadership involve government participation and cooperation. In this the Bureau of Standards would continue to be an important factor, but on the lower level of operation as distinguished from the level of policy.

In order to be suitably advised in respect to such participation and cooperation, the Secretary of Commerce has felt it desirable that a call be issued thru the Visiting Committee for a meeting of individual leaders in the standardization field.

The meeting hereby called will be opened by the Secretary of Commerce or, in his absence, by the chairman of the Visiting Committee and then turned over to the chairmanship of Mr. Henry B. Bryans, president of the ASA, for discussion and recommendations upon the tentative agenda prepared by Mr. Carroll L. Wilson, of which also a copy is enclosed.

It is thought that the session may profitably be given over first to general discussion, followed by the discussion of specific measures and the appointment of committees. The group is invited to luncheon at the club.

If the meeting progresses along lines that are hoped, it is expected that the report of the conference back to the Secretary of Commerce thru the Visiting Committee, with any modifications that may be made, will be approved by the Secretary of Commerce, and that from then on under the leadership of the ASA, a new and broader era will have been instituted in the function of standardization in the United States.

Will you please advise Mr. Henry B. Bryans, president of the American Standards Association, 1000 Chestnut Street, Philadelphia 5, Pa., whether you may be expected to attend the meeting.

Respectfully yours,

FRANK B. JEWETT
President, National Academy of Sciences; President, New York Museum of Science and Industry

WILLIAM D. COOLIDGE
Vice-president and Director of Research, General Electric Company

VANNEVAR BUSH
President, Carnegie Institution of Washington; Director, Office of Scientific Research and Development

KARL T. COMPTON
President, Massachusetts Institute of Technology; Chief Field Service, Office of Scientific Research and Development

GANO DUNN
President, the J. G. White Engineering Corporation; President, Cooper Union for the Advancement of Science and Art

Chairman of the Visiting Committee of the National Bureau of Standards

Standards in Commerce—A Basis for Action

Report presented by Carroll L. Wilson to the Secretary of Commerce, and approved in principle by the Conference on Standardization January 12

THIS report recommends action by the Secretary. It aims to improve the Department's effectiveness in fostering the development of commercial and industrial standards as aids to the expansion of commerce. The entire approach is based on one assumption—borne out by careful analysis; namely, that the inherent nature of this work demands close collaboration between the government and private business.

Current Controversial Approach Rejected

Standards development has been active in this country since the start of the century. Most of the work has been carried on under private initiative, through the efforts of several hundred business organizations and a much larger number of individual concerns. Many government agencies have also contributed, notably the Department of Agriculture, the Food and Drug Administration, and the National Bureau of Standards. The focal clearing house of private activity has been the American Standards Association (of which the Department of Commerce has long been a member). This body had its beginning in the first World War, which indeed gave a great lift to the whole movement, both here and abroad. The commercial work of the NBS likewise got its real start at that time.

Today the United States leads the standards world, thanks to the widespread interest and initiative applied by its citizens in this field during the past generation. In the basic arts of measurement the NBS appears to have achieved almost unique stature. But in the application of standards to commerce, the actual achievements of both NBS and ASA seem to have fallen short of their opportunities. Such shortcomings had no very serious consequences while the commercial standards dealt with by these two organizations were confined largely to "industrial goods." But if standards are to be extended as aids to the ultimate consumer, a far more effective performance will be essential.

Current discussion of the standards movement and its future goes on in an atmosphere of intense controversy. As long as standardization was confined chiefly to industrial goods, the rivalry and contention appears to have been about what might normally be expected in any field of technical progress. But recent developments, in particular the work of the Office of Price Administration, have heavily emphasized the likelihood that standards may come to be applied extensively to consumer goods. This prospect has whetted the edge of old rivalries and injected new elements of controversy, bringing the subject almost to an explosive state. Under these conditions people interested in standards tend to fall into opposing camps. For example, many contend vigorously that only the government through the NBS can deal effectively with the consumer goods problem; others are just as insistent that the ASA is incomparably the better vehicle for leadership. The first propose that the Department withdraw from membership in the ASA; the second counter (in effect) with a proposed Congressional Charter for the ASA. This sort of personalized controversy confuses the real issues and obscures the constructive possibilities; it is emphatically rejected as a basis for this analysis.

Future Needs—Business to Lead, Government to Help

The truly significant questions are these: How real and how extensive is the need for more active standards development? What kind of standards will be most in demand? How can the NBS and the Department contribute most effectively? What have other government agencies to offer? What specific contribution can a private clearing house such as the ASA be expected to make?

It is probable that the next two decades will bring a strong growth in consumers' demand for facts on the performance of things they buy. From this demand will come the need for many performance standards. To develop this and other new consumer aids effectively, and to exploit the industrial goods area still untouched, will call for more intensive, more skillful cultivation of the whole standards field than has heretofore been applied. Only if the need were predominately for compulsory standards would there be a clear case for government to assume active leadership. But the great majority of standards in prospect involve no questions of health, personal safety, or protection of property. Accordingly, compulsory standards can legitimately play only a secondary part. Therefore, the public should look primarily to business rather than government, to evolve the performance data it will want. Likewise, standards development should follow the voluntary agreement process as its main channel. For this work the Department and the NBS (and also other government agencies) can provide facts, measurements, and technical assistance; these will be their best contributions.

The opportunities for more effective collaboration between the Department and private organizations are truly substantial. Light is shed on this by a glimpse at the processes of establishing a new standard—promotion or education, formulation, review, advance acceptance, compliance. Consider a performance standard for some consumer item; for example, the durability of shoe soles, or the accuracy of an alarm clock. Before there can be such a standard there must be an effective demand for performance data. Somebody has to sell the idea. Here the mail order houses have already taken the lead, because the facts help them sell goods. This practice will surely spread to other merchandising fields. It is not too clear that the Department can make any substantial contribution to this promotional work. There will be opportunities for consumer organizations to do pioneering, and for spreading knowledge about standards through the public school system.

The actual development of a specific standard rests on negotiation, to which the Department can contribute but little of intrinsic value. But this stage also calls for facts, research on testing methods, market analysis; here the Department and the NBS have much to offer. The public acceptance of any standard will depend heavily on the rigor of the tests that it meets for adequacy and equity. If a "court of review" (such as the ASA Standards Council) is required, it should be judged by its own acts; the direct participation of any governmental agency here could distract attention from the actual quality of the "court's" performance and, conversely, could embarrass the government. Finally there are the advance acceptance and compliance stages. To the extent that these latter may be necessary in any given case, there is definite opportunity for the Department to contribute a point of registry, as well as statistics and other facts. In short, even such a brief review of the standardizing process suggests ample opportunities for collaboration.

New Competitive Standard Proposed

One potent source of the current controversy is inherent in the prevailing standards concepts. These are unsuitable for application to most consumer goods. The most important are minimum standards, grade labeling, over-all specifications or "design" standards, and the "trade standards" fostered by the NBS. Of these the first three either ignore the competitive process or tend to hamper its operation. The "minimum standards" concept seeks to establish a definite level of quality below which competition is in effect to be treated as illegitimate. This concept is satisfactory where questions of health, safety, or property protection are involved; but there is no satisfactory basis for determining such a level where these criteria are missing, as is the case for most consumer goods. Indeed, rigorous interpreters of prevailing anti-trust philosophy would rightly frown on this practice. The grade labeling approach is an effort to simplify quality and performance information; but if applied to any but the simplest type of product (such as canned vegetables?), it is inevitably misleading. The complete standard of design and workmanship (implicit in earlier proposals of the British Standards Institution?) is a grossly impractical attempt to predetermine the complex matrix of qualities that make for general desirability. Finally, the NBS "trade standard" with its labeling provision is weak, in that it is not specifically designed to give the consumer adequate buying information.

A type of performance standard designed explicitly to implement the competitive process is proposed for consideration. The following example, deliberately oversimplified for the sake of clarity, will illustrate both how such a standard might be established and how it could be used as a tool in competition:

> Assume that a satisfactory test on men's business shirts has been devised, equivalent to actual laundry wear. Assume that performance under this test is expressible in simple terms easily grasped by the consumer—number of trips to the (standard) laundry. Let a sample check be taken of the average performance of all such shirts sold. Say this average wear comes out at 40 standard trips. Let this average be adopted as the "comparative standard," to be used at will as a target in competitive selling:
>
> "Our Premium Brand shirt gives you 80 trips, yet it sells for only 50 cents more than typical prices for standard 40-trip shirts." "Our Truvalue shirt gives you only 30 trips; but you pay only *half* the usual price for the 40-trip standard article." "Mr. Main Street! Your town is clean. Why pay for laundry wear you don't need? Compare our finely tailored formfit shirt. Yet it costs no more than ordinary shirts that only give you 5 more unneeded launderings." "Try Gentle's Patent Laundry. Kind treatment converts your 40-trip standard to an 80-trip deluxe." "Fink's Finest Forty—Meets every standard test—*Sets* the standard for value."

There's plenty of room for selling ingenuity when a standard is used in this manner. Leave it primarily up to the individual seller himself to decide whether or not to stress the wear performance factor; but give the standard

wide independent circulation (through the schools, etc) among consumers, to spur demand for such information. Take new sample checks at intervals—say every five years—and raise or lower the (average) standard accordingly. Repeat the process, developing new "Comparative Standards" for other qualities, such as shrinkage, whenever a substantial potential demand is uncovered.

This proposal has yet to be submitted to the experts. It is not offered as a universal panacea; but it would meet many needs that are missed by the standards concepts now prevailing—and it would work with competitive merchandising, not against it.

Stronger Private Standards Body Needed

There is a strong case for a single private body to serve as a focal point of leadership in standards development, for both industrial and consumer goods. Its logical functions would be: To promote actively the use of standards; to assist in the actual development of individual standards through voluntary agreement by producers, merchants, and users; to maintain on a high plane its own rules of equity and adequacy as rigorous tests of all standards issued in its name. It would call upon both government and private sources for aid in developing tests and for market information. To the extent that advance acceptances and performance checks might be required, it could enlist government collaboration. To carry out these general functions, a single agency dealing with all types of standards problems (including simplified practices) should be feasible.

To provide effective leadership, such a standards agency would itself have to meet certain minimum requirements. It would have to be completely above suspicion of undue financial control by special interests. Its top management should reflect equitably the points of view of producers,

Fifty of Nation's Chief Executives Attend Conference on Standards

Fifty of the nation's leading executives in industry and retailing were present at the conference on standardization held in New York January 12 at the request of the U. S. Department of Commerce. Invitations to the conference were issued by the Visiting Committee of the National Bureau of Standards. Wayne Taylor, Under Secretary of Commerce, presided, and H. B. Bryans, president of the American Standards Association, took the chair during the discussion. Those who took part in the conference were:

Edward N. Allen, president, National Retail Dry Goods Assn
E. G. Bailey, vice-president in charge of engineering, The Babcock & Wilcox Co
S. Bruce Black, president, Liberty Mutual Insurance Co
Frank Braucher, president, Periodical Publishers Association of America
J. M. Brentlinger, representing the vice-president in charge of research and development, E. I. duPont de Nemours & Co Inc
Lyman J. Briggs, director, National Bureau of Standards
H. W. Brightman, executive merchandising director, Meier & Frank
Lewis H. Brown, president, Johns-Manville Corp
Henry B. Bryans, president, American Standards Assn; executive vice-president, Philadelphia Electric Co
Fuller E. Callaway, Jr, president, Callaway Mills
A. C. Chameroy, Sears Roebuck & Co; representing General Robert E. Wood, chairman of Board
Willard Chevalier, assistant to the president, McGraw-Hill Publishing Co, Inc
Clarence L. Collens, chairman of the Board, The Reliance Electric & Engineering Co
H. M. Crane, technical assistant, General Motors Co
Gano Dunn, chairman of Visiting Committee; president, The J. G. White Engineering Corp; president, Cooper Union for the Advancement of Science and Art
Wallace Falvey, executive vice-president, Massachusetts Bonding & Insurance Co
Frederick M. Feiker, dean, School of Engineering, George Washington University
D. W. Figgis, president, American Can Co
R. H. Fogler, president, W. T. Grant Co
Clarence Francis, chairman of the Board, General Foods Corp
Ephraim Freedman, R. H. Macy & Co, Inc; representing Jack I. Straus, president
Tom M. Girdler, chairman of the Board, Republic Steel Corp; Consolidated Vultee Aircraft Corp
C. F. Hansen, director of research and planning, W. T. Grant Co
Frank B. Jewett, president, National Academy of Sciences; president, New York Museum of Science and Industry
Charles B. Jolliffe, chief engineer, Radio Corporation of America
Virgil Jordan, president, National Industrial Conference Board, Inc
K. T. Keller, president, Chrysler Corp
Jules Labarthe, Jr, senior industrial fellow, Mellon Institute of Industrial Research, University of Pittsburgh; also representing Irwin D. Wolf, vice-president, Kaufmann's Department Stores, Inc
G. M. Lebhar, editor, Chain Store Age
G. C. MacDonald, director of Bureau of Standards, Montgomery, Ward & Co; chairman, Committee on Standards and Terminology, Mail Order Assn
D. N. Mauger, executive assistant, The Babcock & Wilcox Co
H. M. McCormack, assistant general manager of sales, American Can Co
James H. McGraw, Jr, president, McGraw-Hill publishing Co
E. V. Murphree, vice-president, Standard Oil Development Co
Arthur E. Pew, Jr, vice-president, Sun Oil Co
C. F. Rassweiler, vice-president, Research & Development, Johns-Manville Corp
Stanley B. Resor, president, J. Walter Thompson Co
A. W. Robertson, chairman of the Board, Westinghouse Electric and Manufacturing Co
C. D. Ryan, president, Montgomery, Ward & Co
Warner Seely, secretary, The Warner & Swasey Co.; representing Charles Stilwell, president
N. A. Shepard, chemical director, American Cyanamid Co
E. O. Shreve, vice-president (Sales), General Electric Co; representing Eric A. Johnston, president, U. S. Chamber of Commerce
Alfred P. Sloan, Jr., chairman of the Board, General Motors Corp
Earle Smith, chief metallurgist, Republic Steel Corp
George H. Taber, Jr, president, Sinclair Refining Co
Wayne C. Taylor, Under Secretary of Commerce
John M. Van Horson, Young & Rubicam Co
William B. Warner, president, McCall Corp
John W. Watzek, Jr, Crossett, Watzek & Gates; Roaring River Logging Co
H. F. White, representing Robert West, president, Esmond Mills
Ralph J. Watkins, representing Arthur D. Whiteside, president, Dun & Bradstreet, Inc
Oliver G. Willits, vice-president, Campbell Soup Co; representing Arthur C. Dorrance, president
Charles E. Wilson, president, General Electric Co
Carroll L. Wilson, National Patent Planning Commission
R. E. Zimmerman, vice-president and member of Executive Committee, U. S. Steel Corp

merchants, and consumers; but it should be free of all official entanglements with other organizations, free to act as a single-purpose body. It should be led, particularly in the next few years, by an able enterprise builder devoting all or a large share of his attention to its development. Its staff should include men competent not alone in engineering, but in negotiations, in market analysis, and in promotion. Its procedures should facilitate the most direct contact with the best technical skills—including merchandising—available throughout the country. Furthermore, these procedures should combine equity with realistic speed, speed in tune with the actual pace of industrial progress.

Fortify National Bureau of Standards—Citadel of Measurement

The future development of commercial and industrial standards will probably place a heavily increased burden on the technical facilities of the NBS. Steps should be taken to strengthen the Bureau accordingly. In particular, more direct and more adequate legislative authorization should be provided for work to be done without charge by the NBS, on request from tax-exempt private organizations judged to be operating in the broad public interest. While the present survey has not been focussed on the Bureau's work related to Federal procurement, there is evidence that a thorough study of this function might point to substantial improvement. It has been suggested that the Bureau's basic scientific work suffers perennially from lack of funds. If further study should support this claim, steps should be taken to apprise business and the scientific professions of the facts; for theirs is the primary responsibility for informing the Congress on services required from the Bureau. Finally, the Commercial Standards and Simplified Practice Divisions should be removed from the Bureau as soon as it may be feasible. Their work, being primarily involved in questions of business judgment, is out of place in this otherwise exclusively scientific and technical body.

Rejuvenate Department's Commercial Standards Work

These commercial activities of the NBS should be transferred, either to the Office of the Secretary or to the Bureau of Foreign and Domestic Commerce. But the move should be made only when a feasible administrative plan can be devised and put into operation. The work of the Commercial Standards and Simplified Practice Divisions should be continued. The demand for commercial standardizing activity in the Department is quite likely to increase in any event, even though establishment of the new private standards body should call for a change in the nature of this work. It is reasonable to proceed on the assumption that the Department's experienced and competent personnel will prove capable of adapting themselves to such evolution in the character of their work as circumstances may require.

If and when the transfer of the Commercial Standards and Simplified Practice Divisions from the NBS is made, it should not be necessary thereafter merely to stereotype the Department's commercial standards work in terms of existing routine. On the contrary, if an approach along the general lines recommended in this report is adopted, it should be possible to proceed almost immediately with experiments looking to material improvement in the art of standardization. These might include study of the available means for detecting need for consumer goods standards, sampling as a tool in formulating standards or simplified practices for consumer goods, the active use of advance acceptances as a device to speed the effective adoption of new standards, the possible use of periodic performance surveys as an aid to standards progress, and the development of more effective procedures for reaching voluntary agreements on standards in process. Also, if the recommended new type of performance standard discussed in this report should pass the test of advance criticism by experts, it would be highly desirable to select some promising items and develop the entire procedure on an experimental basis. In short, there should be plenty of valuable new work ahead for the Department's commercial standards group. However, this work should eventually be concentrated on experimental development and service. Private organizations, including the proposed new standards body, should be led to accept full responsibility for promoting new standards. They should carry on such promotion in their own name, without leaning unduly on the public good will attached to the reputation of any government agency.

Conclusion—Towards a Conference With Standards Leaders

To conclude, the outlook calls for more effective leadership in future standards development than has previously existed. The new emphasis is likely to be on performance information and related standards, for consumer goods. To contribute most effectively, the Department should foster active collaboration by its agencies, the NBS, and (probably) the BF&DC, with private standardizing activities. In particular there is need for rebuilding the American Standards Association, in order to provide an effective spearhead of leadership.

The NBS needs stronger legislative authorization for contributing its measurement skills to the anticipated new developments. As a corollary, its scientific work and its procurement testing for the Federal Government might well be subjected to review, with real prospect of enhancing their effectiveness. The commercial activities of the NBS should be transferred elsewhere in the Department, and continued. There will be immediate opportunities for pioneering experiments by the group transferred, looking to basic improvement in the whole standardizing art, applied particularly to consumer goods. In particular, it is suggested that a radically different type of comparative performance standard for consumer goods might be developed, for systematic use as a device to sharpen the edge of competitive merchandising.

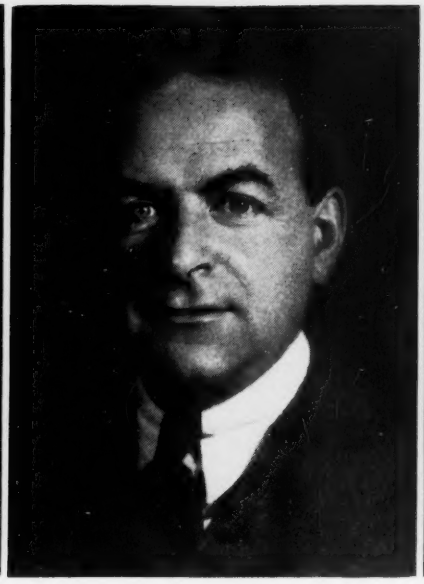
The key recommendation is the complete rebuilding of the American Standards Association into a new, exclusively private standards body, capable of dealing effectively with both industrial and consumer goods. The Secretary of Commerce can legitimately lend his good offices to this venture, by reason of the Department's long continued membership in the Association, and more important, because of his broad responsibility for promoting commerce. However, adoption of these recommendations would have far-reaching effects on future operations of the National Bureau of Standards. Hence this report should first be submitted to the Bureau's Visiting Committee for their consideration. The Secretary might suggest that this Committee join him in preparations for calling a conference of business executives and other leaders interested in the future development of standards in the United States.

Wilson Named Chairman Of Standard Oil Company Board

Dr. Robert E. Wilson, formerly president of the Pan American Petroleum & Transport Company, New York, and member of the ASA Board of Directors, has been named chairman of the Board of the Standard Oil Company of Indiana. The heavier responsibilities incident to the new position have caused Dr. Wilson to resign as member of the Board of Directors of the American Standards Association.

George H. Taber, Jr, president, Sinclair Refining Company, has been named by the American Petroleum Institute to serve as member of the Board to complete Dr. Wilson's unexpired term.

George H. Taber, Jr



Frederick R. Lack

H. H. Morgan

Three New Members Of ASA Board of Directors

THREE new members of the Board of Directors of the American Standards Association were elected recently to fill vacancies created by expiring terms. They are:

Frederick R. Lack, vice-president and manager, Radio Division, Western Electric Company, Inc., New York, nominated by the Institute of Radio Engineers.

H. H. Morgan, chief engineer and manager, Rail and Track Fastenings Department, the Robert W. Hunt Company, Chicago, nominated by the American Society for Testing Materials.

George H. Taber, Jr., president, Sinclair Refining Company, New York, nominated by the American Petroleum Institute.

Frederick R. Lack, a graduate of Harvard University, was born in England. He served in the Signal Corps in World War I, and later joined the engineering staffs of the Western Electric Company and the Bell Telephone Laboratories where he worked on the development of radio telephone systems.

In 1939 Mr. Lack became the manager of the Specialty Products Division of the Western Electric Company. In 1942 he was elected a vice-president of the company and also became manager of the Radio Division.

Mr. Lack is a fellow and one-time director of the Institute of Radio Engineers, and a member of the American Institute of Electrical Engineers, the American Physical Society, and the Harvard Engineering Society.

H. H. Morgan was graduated from Lewis Institute, Chicago, in 1904 and has been working since on problems of testing, inspection, and research in the field of engineering materiel for the Robert W. Hunt Company as manager of the physical testing and cement testing laboratories.

During World War I he served as Captain in the U. S. Corps of Engineers. Later he resumed his prewar work with the Robert W. Hunt Company, becoming Director in 1929 and Chief Engineer in 1936.

He has been active in ASA work as a member of the Standards Council since 1938, as a member of the Mechanical Standards Committee since 1935, as chairman of the Sectional Committee on Standardization of Dimensions and Materials of Wrought Iron and Wrought Steel Pipe and Tubing, B36, and as a member of several sectional committees.

Mr. Morgan also served as president of the American Society for Testing Materials during 1939-1940.

He is a member of the American Society of Mechanical Engineers, Western Society of Engineers, American Society for Metals, American Transit Association, and the American Railway Engineering Association.

George H. Taber, Jr has worked in various branches of the petroleum industry since 1915. Prior to his election as president of the Sinclair Refining Company, he was for many years vice-president of the company in charge of refining operations.

Mr. Taber was graduated from the University of Pennsylvania in 1911 and received a Master's Degree in chemical engineering from the Massachusetts Institute of Technology in 1913.

He is a member of the American Society of Mechanical Engineers, American Chemical Society, Society of Automotive Engineers, and the American Institute of Mining and Metallurgical Engineers.

Standards for Laminated Lumber Now in Preparation

THE Central Committee on Lumber Standards is devising ways and means of supervising the development of basic standards for glued laminated lumber products, the Division of Simplified Practice of the National Bureau of Standards announces. The Central Committee is the agency through which the American Lumber Standards were developed, and whose recommendations were promulgated by the Department of Commerce, through the Division of Simplified Practice of the National Bureau of Standards.

The Committee's recent action is in response to a request made in a resolution adopted by an informal conference of lumbermen, fabricators, and glue manufacturers held in Chicago on June 3, 1943, which was formally presented to the Committee by the Executive Committee of the National Lumber Manufacturers Association. The plan in general follows that used in developing the American Lumber Standards, which, the Bureau reports, have been accepted as an outstanding achievement in the history of the industry and of standardization. Reporting to the Central Committee will be a Consulting Committee on Laminated Lumber Standards. Its members will represent component industry operations and will be sufficiently experienced to determine, prior to any conferences, whether the standards submitted are adequate, and whether proper consideration has been given public and private interests. The Consulting Committee may refer reports to the committees of origin or recommend them to the Central Committee for consideration.

Eight Standards Committees

The drawing up of recommendations will rest with working committees to be known as Standards Development and Technical Committees. At present, eight such committees are planned. They are:

(1) Structural uses (framing for buildings, bridges, towers)
(2) Maritime uses (ships, boats, barges)
(3) Vehicular uses (automotive, trailers, wagons, rolling stock)
(4) Coverings and panels (for buildings and other structures)
(5) Millwork (doors, sash, trim, cabinets)
(6) Furniture (residential, office, store fixtures)
(7) Aircraft (wings, fuselage, frames)
(8) Remanufactured uses (lasts, toys, implements)

Subcommittees dealing with various phases of the subject will use the advisory services of the Forest Products Laboratory, Forest Service, U. S. Department of Agriculture.

It is expected that the development of standards covering lumber, glue, gluing, fabricating practices, design, and performance of finished products will insure the selection and manufacture of the proper type of laminated construction.

When the standards are established, inspection services will be available, in all probability, to assure conformance in much the same manner as services now functioning assure conformance with current lumber standards. The Division of Simplified Practice of the National Bureau of Standards under whose procedure the American Lumber Standards are promulgated is assisting actively in their development.

Dr. Anderson Retires

Dr. R. P. Anderson, member ex-officio of the Board of Directors of the American Standards Association as past-chairman of the Standards Council, and secretary of the Division of Refining of the American Petroleum Institute, has retired from active duty after 11 years of service with the ASA and more than 20 years of service in the technological branches of the petroleum industry.

As a member of the Standards Council representing the American Petroleum Institute from April 17, 1934 to December 31, 1944, he was active in the ASA during the years of rapidly expanding development. He served as chairman of the Standards Council in 1940 and 1941.

He was a member of the Safety Code Correlating Committee, responsible for the development of the American Standard safety codes, and an active member of several of the important sectional committees. He was secretary of the ASA Committee on Petroleum Products and Lubricants, Z11, as well as ASTM Committee D-2 on Petroleum Products and Lubricants, and was the American representative on Technical Committee 28, Nomenclature and Methods of Test of Petroleum Products of the International Standards Association, for which the ASA held the secretariat.

As secretary of the Joint API-ASME Committee on Unfired Pressure Vessels, he helped to bring the API-ASME Code to its present high level of acceptance. He served also as secretary of the Advisory Committee on Fundamental Research on the Composition and Properties of Petroleum which sponsors research projects under the Institute's program of fundamental research.

Both the American Standards Association and the American Petroleum Institute express deep regret at the loss of Dr. Anderson's services and counsel.

New Standards from Other Countries

THE following new and revised standards, just received by the American Standards Association from other countries, may be borrowed by ASA Members from the ASA Library or purchased through the ASA Sales Department.

Great Britain

New British Standards

Code of Functional Requirements for Buildings, Chapter V Loading British Standard Code of Practice CP4:1944
Space Required for Domestic Electrical Appliances BS1183:1944 75¢
Drawn Lead Traps BS504:1944 75¢
Non-Ferrous (Excluding Lead) Traps and Wastes BS1184:1944 75¢
Grading of Softwood Joinery BS1186:1944 75¢
Roofing Slates BS680:1944 75¢
Panelled and Glazed Wood Doors, Part 1 BS459:1944 75¢
Wood Stairs with Close Strings BS585:1944 75¢

Australia

Draft Standard

Rules for Certification of "A" Grade Boiler Welding Operators CB.14

"The most photographed of all wars"—cameramen at the Roosevelt-Churchill conference at Quebec.

Picture-Taking Qualities Guide Buying of Flash Lamps

by R. E. Farnham[1]

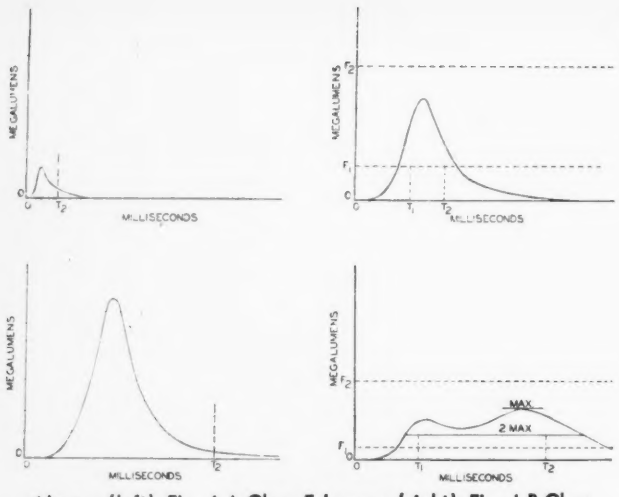
Chairman, Subcommittee L on Photographic Illuminants, ASA War Committee on Photography and Cinematography

A FREQUENTLY heard comment in connection with present-day events is that this is the most photographed of all wars, and there is no question that photography in its varied aspects plays an important part. There are the news photographs which abound in the daily papers; and there is a far larger group of photographs unseen by the public but kept for record purposes. These include enemy equipment as well as ours, photographs of unusual surgical operations, photographs used to facilitate training, in addition to the highly developed aerial photography which so effectively guides the activities of our bombers and fighters.

While daylight serves as the illuminant for the majority of these pictures, nevertheless a large percentage must be taken at times and in places where daylight is not available, and resort must be made to light produced on the spot. For this purpose, photographic flash lamps, because of their great light output and simplicity of operating equipment, have carried the major share of the picture-making burden when daylight is not available.

The large numbers of pictures taken by this source of light, plus the fact that the lamp can be used but once, has meant that the Armed Forces have used these lamps by the millions; hence the need of purchase specifications to insure that they shall obtain satisfactory lamps.

[1] General Electric Company; representing Illuminating Engineering Society.



Above: (left) Fig. 1 A-Class F Lamps; (right) Fig. 1 B-Class M Lamps. Below: (left) Fig. 1C-Class S Lamps; (right) Fig. 1D-Class FP Lamps.
(Reproduced from the standard)

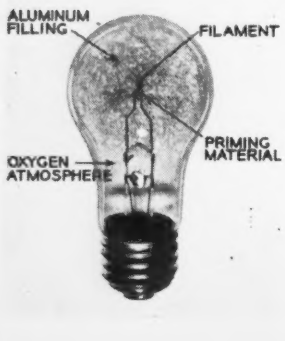
Fig. 1. Typical Luminous-Flux vs Time Characteristics

This need is met in the new American War Standard Specification for Photographic Flash Lamps, Z52.43-1944. In this new specification, these lamps are for the first time evaluated on the basis of their picture-taking quality. The details of the test method and the basis for evaluation of lamps are the result of extensive data and cooperation on the part of the flash-lamp manufacturers and all others concerned. The new specification also covers a new method of sampling lamps for inspection tests and methods of packing lamps to withstand rough handling in transit.

The need for specifications which will prescribe the necessary uniformity between lamps of a trade designation is apparent when one examines the way in which these lamps are used.

It is quite common practice when making flash pictures to automatically synchronize the flash of the lamp with the operation of the camera shutter so that all the photographer need do is to press a button, causing the shutter to open at the exact instant that the flash reaches its maximum value. When it is realized that many of these pictures are made at a shutter speed of 1/200 or 1/400 of a second, a matter of 5/1000 or 2.5/1000 of a second, it can be appreciated that, in addition to precise operation of the shutter and synchronizing device, the timing of the lamp must be held within close limits.

The only way that the timing of a photographic flash lamp may be controlled is by correct proportioning and adjustment of the materials entering into the construction of the lamp. The four essential elements of a flash lamp, aside from the base and glass bulb, are (1) the filament, coated with (2) a priming material, (3) the aluminum or aluminum-alloy filling, and (4) the oxygen atmosphere.



There is no way of predicting exactly when a lamp will flash following the closing of the electric circuit. It is by close control of the quality and quantity of each of these four elements that the timing of the flash and the volume of light may be held within the necessary limits.

Four Classifications for Flash Lamps

By measuring the performance of a number of flash lamps we can assume that others, made as nearly alike as is possible, will give substantially the same results. Consequently, any photographic flash lamp specification must be based on the performance of a certain number of samples rather than on any tests applied to lamps to be used later by the Armed Force photographers.

Flash lamps used by the Armed Forces fall naturally into four classifications based on the nature of the service for which they are to be used or the type of synchronizing equipment employed. These four groups are defined in the new standard as class F, M, S, and FP lamps.

Class F lamps do not have any aluminum or aluminum-alloy filling but depend for their light output on the priming material with which the filament and lead wires are coated. These lamps, usually in small bulb sizes, reach the peak of their flash in about 0.005 seconds and the flash duration is approximately 1/200 seconds. Such lamps permit the simplest synchronizing mechanisms or when used with so-called "open-flash" the short flash duration has the same action-stopping power as a shutter working at 1/200 second. Its light-time specification therefore is simple, being merely a minimum light output within a time limit, that is, the time at which the shutter is presumed to be closed. The exact peak time is relatively unimportant.

Medium-Peak Lamps

Lamps belonging to Class M are known as medium-peak lamps, that is, the peak of flash intensity occurs in the 20-23 milliseconds (0.020-0.023 seconds) range. This peak time is characteristic of the aluminum or aluminum-alloy filled lamps intended for accurate synchronization with between-the-lens shutters. Synchronizing devices designed for this type of lamp may employ either a magnetic shutter tripper or a mechanical system to delay the action of the shutter until the flash reaches its peak. It can be appreciated that a specification covering the Class M lamps must combine light-output limits as well as time limits; in other words, light within a given time band.

For example, as illustrated in Figure 1B (reproduced above), the light output must reach a minimum val of F_1 by time T_1 and stay above this minimum level to time T_2. The maximum instantaneous value of the flash should not exceed F_2 million lumens. Theoretically, the minimum volume of light will be represented by the area T_1-F_1-F_1-T_2. Of course this will never be actually the case as the light-time characteristics of flash lamps follow a curve of the general shape shown in the figure. The theoretical maximum might be represented by the area T_1-F_2-F_2-T_2. Likewise, this maximum would never be actually reached because of the shape of the usual light-time characteristics of the lamp. The significance of this method of

specifying flash-lamp performance is that a lamp might be early or late in its timing but still be well above the minimum light output and therefore would meet the essential requirement of providing enough light to take the picture.

Class S lamps are characterized by large bulbs and a relatively large quantity of combustible material, with the result that the flash requires considerably more time to reach its peak value than is the case with Class F or M lamps. Likewise, flash duration is greater. It follows from this that there would be little advantage in using such a lamp with high shutter speeds because of the large percentage of light wasted. In other words, full use of the greater light output is obtained only with long exposure times so that the lamp should be employed for substantially "open flash" applications. Hence, a specification that provides a minimum of light output within a particular time adequately takes care of this lamp.

The FP Classification

The FP classification covers an interesting group of lamps, those which are designed for use with the focal-plane type of shutter. The focal-plane shutter consists of a curtain containing a narrow slit (two curtains, one following the other, are also used) which moves across the film area, thus any point on the film surface receives an exposure determined by the speed of the moving curtain and the width of the slit. Shutters of this type make possible exposures of 1/1000 second. However, one edge of the film is going to receive its exposure at a considerably later time than the other. If a flash lamp having pronounced peak characteristics is used, the negative will be well exposed in the center with little or no exposure at the edges. A lamp having a relatively constant light output for a sufficient time to cover the curtain travel is required. Experience has shown that a two-to-one light variation can be tolerated across a negative. Therefore, the specifications for the FP group prescribe the time over which the light variation must not change more than two to one.

While over-all maximum and minimum light values must of course be specified, the maximum value of any individual lamp being tested determines its own minimum. The minimum-value time limits must come outside of T_1 and T_2 as shown in Figure 1D.

Specifications covering lamps for use with daylight-type color film without the use of supplementary light filters on cameras will be added at a later date, as soon as more complete data have been provided regarding methods of specifying color quality of the light a flash lamp gives.

It is interesting to note that the American War Standard specification is now being considered for approval as a Federal Specification which will be mandatory upon all purchasing agencies of the Federal Government.

The new American War Standard Specification for Photographic Flash Lamps, Z52.43-1944, is one of a series of more than 30 standards which have been developed to date by the ASA War Committee on Photography and Cinematography at the request of the Armed Forces and the War Production Board through cooperation of the photographic and motion picture industries. The subcommittee which was responsible for the technical details of the standard included:

R. E. Farnham, Illuminating Engineering Society, *Chairman*

S. L. Chertok, American Standards Association, *Secretary*

L. F. Anderson, Wabash Photolamp Corporation
(Philip Sperry, *Alternate*)
John H. Andresen, Jr, Kollsman Instrument Division of Square D Company
L. E. Barbrow, National Bureau of Standards, U. S. Department of Commerce
(T. H. Projector, *Alternate*)
Lt E. L. Berman, War Department, Army Pictorial Service
(Lt Boyce Nemec, *Alternate*)
H. M. Biele, The Associated Press
T. H. Bruce, General Electric Company
(B. Buus, *Alternate*)
Lt G. A. Chambers, Navy Department, Bureau of Aeronautics
Major Edward Colton, War Department, Army Air Forces
A. C. Downes, National Carbon Company, Inc.
J. H. Kurlander, Westinghouse Electric & Manufacturing Company
(W. R. Wilson, *Alternate*)
E. H. Salter, Electrical Testing Laboratories
J. L. Tupper, Eastman Kodak Company

Lay That Slide Rule Down, Lads; Your Country Calls for Diction!

English and American officials conferring recently at ASA headquarters on the standardization of machine parts for use in combat were shaken loose from their slide rules by a frantic SOS on the phone.

"What's the proper pronunciation of 'helix'? The government wants to know."

Patiently the technologists referred the government to Webster's Dictionary and went back to the war. But not for long.

A crisis on the home front is a crisis, the harried secretary decided, and slipped a note to her boss, explaining that she had suggested Webster's but that government officials shooting a sound motion picture training film for machine shop workers had not been satisfied. Unanimously they had insisted on a ruling on the pronunciation of "helix" and "helical" from the ASA.

During a break in the conference the note was presented. After a grim discussion of the matter for ten minutes, a vote was taken.

Note to editors of Webster's Dictionary: According to English and American technological authorities, the correct pronunciation is "heel" in the noun and "hell" in the adjective.

February, 1945

ASA Company Member Service

American Standards Association — 70 East 45th Street, New York 17, N. Y.

Application for New Standards

(Must be returned by May 1, 1945)

Company Members of the American Standards Association are entitled to one free copy of each newly approved American Standard for the first $50 of annual membership, and an additional copy for each $100 beyond this.

NAME .....STREET .....

Person eligible to return list (We can give you his name, if necessary)

COMPANY .....CITY AND STATE.....

How to Order Your American Standards

- Find out who in your company has been named as representative to return this application.
- Check the standards you want.
- Give your list to your company representative, who will return it to us.
- Your company is entitled to a special membership discount of 20 percent on copies over and above your quota of standards furnished by ASA without charge as part of its services to company members. (For explanation of quota, see above.)

No. of Copies	ASA Number	Sponsor's Number	Title of Standard	Price
.....	B31.1a-1944		Code for Pressure Piping, Supplement No. 1	.10
.....	G17.1-1944	ASTM A95-44	Carbon-Steel Castings for Valves, Flanges, and Fittings for High-Temperature Service, Specifications for	.25
.....	G17.2-1944	ASTM A96-44	Alloy-Steel Bolting Material for High-Temperature Service, Specifications for.	.25
.....	G36.1-1944	ASTM A157-44	Alloy-Steel Castings for Valves, Flanges, and Fittings for Service at Temperatures from 750 to 1100F, Specifications for	.25
.....	G37.1-1944	ASTM A182-44	Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for Service at Temperatures from 750 to 1100F, Specifications for	.25
.....	G51.1-1944	ASTM A215-44	Carbon-Steel Castings Suitable for Fusion Welding for Miscellaneous Industrial Uses, Specifications for	.25
.....	G52.1-1944	ASTM A148-44	Alloy-Steel Castings for Structural Purposes, Specifications for	.25
.....	Z11.36-1944	ASTM D381-44	Gum Content of Gasoline, Method of Test for	.25
.....	Z11.37-1944	ASTM D357-44	Knock Characteristics of Motor Fuels, Method of Test for	.25
.....	Z52.14-1944		Nomenclature for Motion Picture Film Used in Studios and Processing Laboratories (American War Standard)	.25
.....	Z52.38-1945		Method of Determining Signal-to-Noise Ratio of 16-Mm Sound Motion Picture Prints (American War Standard)	.10

February, 1945

ASA Company Member Service

American Standards Association — 70 East 45th Street, New York 17, N. Y.

Application for New Standards

Company Members of the American Standards Association are entitled to one free copy of each newly approved American Standard for the first $50 of annual membership, and an additional copy for each $100 beyond this.

NAME .....COMPANY .....

How to Order Your American Standards

- Find out who in your company has been named as representative to return this application.
- Check the standards you want.
- Give your list to your company representative, who will return it to us.
- Your company is entitled to a special membership discount of 20 percent on copies over and above your quota of standards furnished by ASA without charge as part of its services to company members. (For explanation of quota, see above.)

No. of Copies	ASA Number	Sponsor's Number	Title of Standard	Price
.....	B31.1a-1944		Code for Pressure Piping, Supplement No. 1	.10
.....	G17.1-1944	ASTM A95-44	Carbon-Steel Castings for Valves, Flanges, and Fittings for High-Temperature Service, Specifications for	.25
.....	G17.2-1944	ASTM A96-44	Alloy-Steel Bolting Material for High-Temperature Service, Specifications for.	.25
.....	G36.1-1944	ASTM A157-44	Alloy-Steel Castings for Valves, Flanges, and Fittings for Service at Temperatures from 750 to 1100F, Specifications for	.25
.....	G37.1-1944	ASTM A182-44	Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for Service at Temperatures from 750 to 1100F, Specifications for	.25
.....	G51.1-1944	ASTM A215-44	Carbon-Steel Castings Suitable for Fusion Welding for Miscellaneous Industrial Uses, Specifications for	.25
.....	G52.1-1944	ASTM A148-44	Alloy-Steel Castings for Structural Purposes, Specifications for	.25
.....	Z11.36-1944	ASTM D381-44	Gum Content of Gasoline, Method of Test for	.25
.....	Z11.37-1944	ASTM D357-44	Knock Characteristics of Motor Fuels, Method of Test for	.25
.....	Z52.14-1944		Nomenclature for Motion Picture Film Used in Studios and Processing Laboratories (American War Standard)	.25
.....	Z52.38-1945		Method of Determining Signal-to-Noise Ratio of 16-Mm Sound Motion Picture Prints (American War Standard)	.10

How Should Laboratory Tests Be Used In Post-War Textile Programs?

by A. G. Ashcroft[1]

Alexander Smith & Sons Carpet Company

This analysis of the principles governing the laboratory testing of consumer goods and the relation of laboratory tests to standards in the textile field is of special interest to ASA Members in view of the work now being done by Planning Committees of the Board of Directors and the Standards Council in cooperation with the Advisory Committee on Ultimate Consumer Goods. The work of the American Standards Association on consumer goods is being studied and a plan for future development of the program is being considered.

This article is abstracted from an address presented by Mr. Ashcroft before the American Association of Textile Chemists and Colorists, and published in full in the November 20, 1944 issue of the *American Dyestuff Reporter*.

LABORATORY testing in the textile field has grown during the past decade to be a potent force in research, standardization, and quality control. . . . We have learned that the translation of the art of textile manufacturing into a science of production requires the development of methods of measurement, the collection of data, and the translation of newly acquired knowledge into action. . . .

It is interesting to note that economists[2] are predicting a breakdown of the barriers between the various sciences, and a great expansion of the research picture of the fabricating industries of which the textile industry is an obvious part. Research and development emphasis in these fabricating industries will be on the usefulness or utility of the material rather than upon the use of some available basic raw material, such as cotton or wool, of which the supply happens to be economic or accessible. The chemist, physicist, and engineer will be working in the laboratories of the fabricating industries primarily in the interest of the consumer of his product, rather than for the owner or user of large stocks of traditional raw materials. . . . If we are developing goods with a growing emphasis on filling human desires, it would seem that pressure for tests as evidence of relative quality will increase and the influence of laboratory testing on the producer and consumer alike will grow like a mushroom. We can foresee a rising demand for new tests developed to measure length of service, maintenance of esthetic values, and a mixture of human desires extremely complicated in nature.

An Era of New Problems

The combining of the sciences, the rise of the fabricating industries, and the expansion of research facilities and personnel each suggest an era of new problems in test development and interpretation. I am suggesting that we have felt, so far, only a breath of the problems in the interpretation and use of tests. Carelessness, inertia, and an indiscriminate attitude about tests may make us partners in and not opponents of the growth of a whirlwind of perversion of testing into a form of scientific quackery. . . .

In fields where the engineering sciences were the originating source of product development, laboratory testing has been an active force in product research but has not been emphasized in promoting utility values, even though the testing was more directly related to service than are most textile tests. The testing of a motor, for example, has been standardized, but these tests are not presumed to measure service life. Extensive use of service tests of automobiles in proving grounds aided in the improvement of the auto for better service but no claims or labels resulted. . . .

Most types of tests developed for textiles up to this time are not closely related to human desire. The tensile strength of blankets is far removed from the real but complex reasons we purchase certain blankets; *i.e.*, for lightness in weight, warmth, color, thickness, kind of fiber, or cost. An excellent paper recently published by the National Bureau of Standards indicates entirely different tests as criteria for human value. Their complexity may help to indicate their great value in research and development of blankets, even if they are difficult, if not impossible, to use in consumer promotion.

It may be that as the textile industry develops its knowledge through improved tests it too will become conservative in the use of laboratory tests and will use testing to a greater degree in its legitimate spheres of influence—in research, in standardization, and in control. . . .

While your Research Committees are still improving and developing tests for sun-fastness and wash-fastness qualities in textiles, the untried, uncorrelated tests are being promoted as standards for consumer value relationships.

It is time that textile chemists restricted the use of

[1] Member of the Advisory Committee on Ultimate Consumer Goods of the American Standards Association, and vice-chairman and representative of the American Society for Testing Materials on ASA Sectional Committee on Fastness of Colored Textiles, L14.

[2] Soule, Roland P. *Technological and Industrial Trends.* Address before Industrial Research Institute, Jan. 1944.

their tests to fields covered by their data. Before use in war service indicated that tests were inadequate, we had many erroneous ideas of the relation between laboratory tests and the actual values in the field of textiles treated for water, fire, and weather resistance. Tests which we assumed measured utility of cloth for hot or cold climates have been made obsolete by war-stimulated service data. These are only a few examples in the textile field.

Perhaps our war production experience has brought a touch of humility and in future promotions of new test methods for over-all measures of human wants we will insist on the tempering, corrective data of actual use and the constructive criticism of the data of our associates; thus, we no longer will oversell laboratory tests or through inference or general language infer that they are designed as final measures of quality or wantableness.

Types of Quality Criteria

There are good reasons for combining a new humility with our renewed effort in the development of tests for quality criteria. I recall Dr. Walter Shewhart's definition[3] several years ago of "quality" because it brought home the complicated nature of the broad values of which each of our tests was a small part. He said "a standard of qualtiy which is satisfactory, adequate, dependable, and economic from a long-range viewpoint" might change "whenever the developments in the field of applied science make such changes desirable." Each of these terms defining quality includes the myriad variables of the wants of human beings and their way of living.

Certainly it is evident that we cannot standardize the satisfaction everyone obtains from the different values, dependabilities, or economies of the products we buy, the houses we build, the cars we drive, the foods we eat, or the amusements and sports we enjoy. We cannot and do not wish to limit the textiles we make to one type with known test wear-life dependability and thus disregard the value of economy to some, or of style satisfaction to others. This business of attempting to simplify "wantableness" in terms of a few of the quality characteristics that happen to be covered by laboratory tests is not science. It is not even good common sense. Let us, as engineers, be more wary of slogans and labels based upon a few indices of human wants and develop test methods which serve to an even greater degree to add to our knowledge of the properties of the materials we use and thus promote more quickly the development of new products which give wider satisfaction, adequacy for specific use, dependability in performance, and an ever greater economy through greater human productivity. . . .

Three Types of Quality

In general there are three types of quality[3] and a real need for tests for the evaluation of each type.

"The first type is that which characterizes a thing independent of all other things and of human volition and interest." This type is illustrated by the measurements of basic chemical or physical values such as those for mass, velocity, or density. Let us refer to this type as quality of Type 1. In textiles, measurements of quality of this type and classifications based thereon have had limited publication. It was a pleasure to many to hear the Marburg Lecture this year by Dr. Harold DeWitt Smith and his study of textile fibers as engineering materials. His data on properties of textile fibers illustrate quality characteristics of this first type. Quality terms of this first type invariably include in their use a precise definition of the test method. The test results usually are independently verifiable data in a state of statistical control. Tests of this type are rarely misapplied. They are used as signposts for thinking and a sure guide toward new products.

Type 2 quality might be defined as "that which characterizes a thing A in its relation to another thing B and independent of human volition or interest." This type is the more common quality value measured, for example, by laboratory tests for weather resistance, for aging, for heat transmission, or tests for many other use relationships. Tests measuring this type of quality are the basis of most applied research.

What Makes a Thing Desired?

The third quality type may be defined as that which makes a thing desired by some group of people. Tests of Type 2 are frequently dressed up with a little bit of human desire and confused with Type 3. Product having such attributes is, of course, the ultimate goal aimed at by every producer of goods for sale. It is not difficult to recognize that the thing which makes an automobile desired is the way it operates and performs and not the qualities of its parts as defined by Types 1 or 2 and the laboratory tests used to measure these qualities. In textiles, however, this distinction is less obvious, but we are misdirecting our efforts if we attempt to interpret quality of Type 3, desirableness, in terms only of color fastness to light or to washing, or of weight, or count, or strength. We are more certain to meet the very real demand for improved utility and serviceability and wantableness through research and the development of effort toward improved materials and design. We should suppress our desire to measure relative operational values, with their myriad human and environmental variables, by some simple test or comparison. We would save millions of dollars wasted each year if we could divert this effort to measure comparative ultimate consumer value in the direction of the development of improved real values. It is possible, if we did this, that some small part of the buying public might suffer in relative purchasing power because of errors in judgment but the consumer as a whole gains most through the knowledge obtained from continuous experiment stimulated by competition. Research and testing help to improve the qualities which make a product desired and thus increase its satisfaction, adequacy, dependability, and economy for the consumer.

Problems of Interpretation

The problem of interpretation of tests is a very complicated matter. Interpretation depends, first, as has been indicated, upon the aim or goal of the test. Which type of quality was it designed to measure or to compare? Measures of quality of one type rarely, if ever, have easily interpreted meanings for another type. The

[3] Shewhart, Walter. Some aspects of quality control. *Mechanical Engineering*. Dec. 1934.

test must be designed specifically for and limited in use to one type of quality characteristic. If it is designed to measure quality criteria, independent of human interest, it cannot be assumed also to be an adequate measure of a degree of human desire.

Interpretation Influenced by Use

Interpretation is influenced also by the intent of use of the test. Laboratory tests are generally used to increase knowledge in three fields in manufacturing—research and development, specification and standardization, or quality control. They may be designed for research into the properties of a material or the effect of conditions of heat or cold or moisture upon the physical or chemical structure of materials or compounds. Because this field of application is generally basic science, we have been educated by our experience to insist upon evidences of precision and of accuracy before we accept the results of new or untried tests.

A growing field of demand for tests is in applied research where comparison of properties of products is of real value in guiding experimental judgment. An illustration of tests in this field would be the wear-test machine developed for carpet wear comparisons and in constant use by the carpet companies in aiding the development of new constructions, comparisons of production methods, and choice of raw materials.

Tests designed for comparisons of quality of Type 2 for use in applied research require less precision than those for basic research or for measures of human interest. The carpet wear test, for example, has a range of error in its present state of development of more than ± 5 percent. Repetitive tests and elimination of all variables but one in applied research testing make it valuable for this type of test use. However, its use for wear-value comparisons of grades of carpet of different manufacturers would have little meaning even if sufficient tests were made (estimated to be about 20 different series in many cases) and even with great improvement in the precision of the present test and equipment. Rarely have sufficient correlations with service been carried out with tests of this type to prove, by repetitive data, that comparisons of product A with B would mean to the consumer that the products would perform in a similar fashion in service.

Compare Service of Dresses and Tests of Cloth

I recall an excellent study of service of dresses made from cloth, tested and rated in the laboratory, reported at a meeting of the Committee on Household and Garment Fabrics of Committee D-13, of the American Society for Testing Materials. In this study the rating by laboratory test was confirmed by service data for about 60 percent of the products. The conclusion was suggested that the variables of the service test were the cause of some poor correlation. It was evident also that the test itself was an inadequate indication of the relative human usefulness of these fabrics in actual service.

We cannot claim that lack of correlation of service with testing is due to lack of control of the variables in service. Rather, we should conclude that tests designed only for quality comparisons independent of human desires cannot be properly used to grade fabrics for characteristics associated with complex human desires and uses. Tests cannot be used to give numbers to one or two quality characteristics, and the hidden values ignored.

New Attitude Toward Tests

The foregoing is an attempt to show the need for a new attitude toward laboratory tests. The attitude needed is one which will promote the development of test methods that are more precise, and also those properly designed and limited to their quality type. This new attitude would stimulate resistance to the misuse and perversion of tests in promotion, in advertising, in labeling, or in bureaucratic control of manufacturing, and would help develop a new approach to meeting the needs of the consumer.

The new attitude toward laboratory tests would be expressed in certain changes in pace and action which might be called the scientific method. Some of the rules we should follow are:

1. Insist that any new test proposed for adoption be accompanied by data showing satisfactory measures of reproducibility; *i.e.* the precision of the test.
2. Insist that the test method include the test data upon which its precision is based and that the scope or use of the test be limited to the scope of the data upon which it is based.
3. Insist that the limitations of the test be stated so that it cannot be misapplied through assumptions that it includes applications not covered by data.
4. Insist that the sampling technique be carefully outlined and that the number of tests for a given precision be presented.
5. Insist that data be presented showing satisfactory agreement in results (a state of statistical control) between tests made by skilled operators in several laboratories.
6. Insist that the original data be presented so that the evidence is available for all the predictions of the value of the test believed to exist.
7. If the test is assumed to predict quality characteristics under service conditions, insist that a correlation with service use be presented and not merely *assumed*.
8. Do not use tests of a single quality feature to prove human desirability or "wantableness" if the product is desired for many *different* quality features; and unless a test covers the hidden values, and not merely a single quality characteristic, its use in sales promotion is a perversion of textile laboratory testing.

A Science of Test Method Presentation

One way to implement our new attitude toward laboratory tests is to follow an improved method of test presentation in our reporting on old and new test techniques. A standard form of presentation might go a long way toward limiting the test to its legitimate field of usefulness. Such a form of presentation might be developed from the outline which follows:

Using language that is definite and with all predicted applications based upon stated data that conveys knowledge supporting the conclusions:

1. Give the purpose of the test method
   (*a*) State its relationship to the quality characteristics it has been used to measure.
   (*b*) Refer to its major use as indicated by data; *i.e.* in research, development, or control of finished product.
   (*c*) Give its possible relationship to service values and if these relationships are unsupported by data, so state.
2. State to what materials or products it has been applied and indicate that its use for other products should be supported by data before it is so used.
3. State its limitations where known.
4. Describe the test method in complete detail so that it would be unlikely that one would assume from the description that changes in the method or equipment could be made without effect on the precision of the test.
5. Describe the method of sampling and give data to indicate the precision of the test for a stated number of samples.

6. Include data supporting the conclusion that a skilled operator or laboratory will obtain values within a stated range of the average of the test results of a number of laboratories.
7. Avoid conclusions that the test is useful in indicating service performance unless correlating test data is shown.

Conclusion

The natural desire of technicians in the textile field to find answers to standardizing textiles for minimum quality values seems to have developed problems difficult to solve. In this paper an attempt has been made to show how our tests can be applied with less error in application and in the interpretation of the test results than has been evident in the past. The major problem, however, of attempting to show how tests for Type 3 quality can be developed and measures of human wants devised has not been answered. Dr. Walter Shewhart of the Bell Telephone Laboratories suggested that we try to find out what are the objective human wants in terms of the science developed to define them—psychology. A starting point for action therefore might be the organization of a small group or committee consisting of a psychologist, a research engineer, a statistician, and a chemist in the textile field. This group might indicate and classify human wants in textiles. Such a classification of wants might direct our attention anew to the development of test methods measuring these wants and away from further use of count, weight, or strength tests to indicate the wantableness of a textile. The textile industry should work toward this goal—increased public service through better classification of human wants.

Chilean Standards Institute Completes Organization

Plans have been under study for some time, and preliminary steps taken for the establishment of a national standardizing body in Chile. The American Standards Association has now received English and Spanish versions of the officially approved by-laws of the organization which will be known as the National Research Institute of Technology and Standards (Instituto Nacional de Investigaciones Tecnologicas y Normalizacion).

This National Research Institute, with headquarters in Santiago, was formed by the University of Chile, Chilean Institute of Mining Engineers, Chilean Engineers' Association, and the Corporation for Development of Production. The membership at present includes various universities, technical societies, industrial and agricultural societies, and government departments.

The purpose of the Institute will be to study and solve industrial and scientific problems relating to national production. To carry out this purpose it expects to devote itself primarily to the following:

(*a*) Study of raw materials, including those from agriculture and mining and also those of animal origin; and their possible uses and processing (the Institute is entitled to obtain patent rights and to lease or sell any processes and improvements developed).
(*b*) Study technical problems which may arise.
(*c*) Build experimental plants for new industries.
(*d*) Answer technical inquiries both from government and private industry.
(*e*) Further the training of technologists and engineers and of technical experts in particular industries.
(*f*) Investigate and propose technical standards for the development of national production, for export, imported products, and for inspection and test.
(*g*) Study, report on, and provide information concerning the technical improvements in other countries.
(*h*) Publicize and exchange information, through publications, special courses, lectures, and correspondence, concerning research, new methods, and other questions of scientific and technical interest.
(*i*) Act as a national laboratory for experimentation.
(*j*) Coordinate the work of its laboratories and create new laboratories whenever it considers them necessary.

The Institute is to undertake research work on its own initiative, but it may also do so on behalf of private organizations and individuals, whenever necessary.

ASA Public Relations Director Dies of Heart Attack

E. Baird Smith, who joined the staff of the American Standards Association three months ago to serve as Director of Public Relations, died of a heart attack February 3 at 38 years of age.

Mr. Smith came to the ASA from Washington, where for two years he had been Assistant to the Director of the Conservation Division of the War Production Board. Prior to his work in Washington, Mr. Smith had been associated with Young and Rubicam, advertising agency, and the Crowell-Collier Publishing Company.

Although Mr. Smith had been with the ASA for so short a time, he had shown an unusual grasp of ASA problems and had already started on a forward-looking public relations program. His loss is felt deeply by the ASA staff.

ASTM Committee Week Canceled, Spring Meeting Deferred

After consultation with the Government's War Committee on Conventions, the American Society for Testing Materials canceled ASTM Committee Week planned the week of February 26. The Spring Meeting of the Society, scheduled for February 28, is being postponed. While much of the committee work deals with production problems involving specifying and testing of war materials, Committee Week would have brought together several hundred persons in one place in a period of three or four days and the Government feels that this is most inadvisable in the present transportation emergency.

So far as the Society's technical committee work is concerned, only the most essential meetings, involving attendance of less than fifty from out of town will be held during this emergency. Accordingly, the staff is discussing with the officers of committees concerning arrangements for necessary meetings.

Standard Motion Picture Nomenclature Saves Time, Avoids Confusion

by

Captain L. T. Goldsmith; D. E. Hyndman;
W. F. Kelley; and Wesley C. Miller[1]

Members of the Subgroup on Nomenclature of Subcommittee C on Laboratory Practice, ASA War Committee on Photography and Cinematography, Z52

"DAILIES," "dupes," "background plates," and other seemingly esoteric terms used in the everyday vocabulary of motion picture film production in studios and processing laboratories are now formally defined for the first time in the new American War Standard Nomenclature for Motion Picture Film Used in Studios and Processing Laboratories, Z52.14-1944.

This standard is the twenty-ninth to be developed since last April by the ASA War Committee on Photography and Cinematography, Z52, in cooperation with the Armed Forces, the War Production Board, and the motion picture and photographic industries.

It represents the first fruits of a unified effort to prepare a standard reference source for motion picture terminology, in order to bring about a common understanding within the motion picture industry and the Armed Forces as to what is meant by terms used daily in the production of picture and sound negatives and the related laboratory processes or methods employed in making the finished sound-film release prints exhibited in theaters or in the field to troops overseas.

Because of the confusion that existed between various producers, distributors, and exhibitors of motion pictures in their use of different nomenclature for identical films and processes, a standard for film terminology was one of the first to be requested by the Armed Forces at the time the War Committee was organized last year.

The existing confusion because of the lack of such a standard terminology interfered with the civilian production of films for the Armed Forces as well as the Armed Forces' own film production, causing delays and misunderstandings in the production of training and morale films for use by the Armed Forces and on the home front.

In addition to the definitions of terms, there is also included in the standard a flow chart which clearly delineates for the first time how each film and process defined applies to each phase of the commonly accepted methods of motion picture production. While it is possible, of course, to produce motion pictures by other than the methods shown, the methods described on the flow chart are in daily use by an overwhelmingly great majority of major producers of motion pictures, in both the 35-mm entertainment and 16-mm educational fields.

Work on this standard was assigned to Subcommittee C on Laboratory Practice of the ASA War Committee on Photography and Cinematography, Z52, under the chairmanship of M. R. Boyer of E. I. du Pont de Nemours & Company, Inc, and the vice-chairmanship of H. E. White of the Eastman Kodak Company. Mr. White is also chairman of the Committee on Laboratory Practice of the Society of Motion Picture Engineers. The major part of this standard was drawn up

Motion picture film being edited for use by the Army

[1] Captain L. T. Goldsmith, Signal Corps, chairman of the Armed Forces Committee on Photography and Cinematography; D. E. Hyndman, Eastman Kodak Company, president of the Society of Motion Picture Engineers; W. F. Kelley, manager of the Research Council, Academy of Motion Picture Arts and Sciences; Wesley C. Miller, Metro-Goldwyn-Mayer Pictures, chairman of the Committee on Re-recording 35-Mm Features for 16-Mm Release of the Research Council of the Academy of Motion Picture Arts and Sciences.

by the subgroup on Nomenclature of Subcommittee C. In addition, extensive and valuable contributions were made by Major George R. Groves of the Army Air Forces First Motion Picture Unit and R. E. Corbin of the Eastman Kodak Company.

The standard nomenclature selected for various types of films and processes was based on a survey of the terms most commonly used for the particular films and processes in the various studios and laboratories on both the East and West Coasts. Since the Armed Forces in the future will use the terms in the new glossary as standard for their own production procedure and for the ordering of completed films and prints from the motion picture industry, it is believed that within a very short time the terms will be the only ones in accepted usage. The clarified use of one common language by motion picture production personnel will serve to minimize the recurrence of past mistakes and misunderstandings. Thus many man-hours will be saved which were formerly lost because of misinterpretations of written and verbal orders.

This standard nomenclature represents the completion of only a portion of a larger task which has been delayed by the war—that of preparation by a committee of the Society of Motion Picture Engineers of a complete American Standard defining motion picture terms. It is expected that this war standard will form a part of the larger glossary when it is completed.

Copies of the American War Standard Nomenclature for Motion Picture Film Used in Studios and Processing Laboratories, Z52.14-1944, can be obtained from the American Standards Association at 25 cents each.

Obsolete Material Deleted From Wire and Cable Standards

The American Standard Definitions and General Standards for Wires and Cables, C8.1-1932, has been revised by the deletion of some obsolete material.

It is recognized that developments in the industry have made this standard inadequate in many respects, but the sectional committee in charge has considered it inadvisable to prepare a broad revision until the changes brought about by the war have attained greater stability. The new edition, therefore, does not take any of these changes into account. However, it is now free from certain obsolete features, such as limiting cable temperatures, which have been superseded by temperatures specified in more recent industry specifications.

Dr. Torres Re-elected President Of Brazilian Standards Association

General satisfaction was expressed by all interested in standardization in Brazil when Dr. Ary F. Torres was re-elected president of the Brazilian Standards Association by unanimous vote of the Directing Council, M. E. Souza, representative of the American Standards Association in Rio de Janeiro, informs the ASA.

The American Standards Association joins its friends in Brazil in congratulating Dr. Torres on continuing to direct the Association, as Mr. Souza puts it, "from its birth until it has acquired the well founded reputation it now commands beyond Brazilian frontiers."

Changes and Additions to Code for Pressure Piping

All bolts or bolt studs and accompanying nuts intended for high-temperature service should be threaded in accordance with the American War Standard for Straight Screw Threads for High-Temperature Bolting, B1.4-1942, according to a new Supplement to the 1942 edition of the American Standard Code for Pressure Piping.

For pit-cast cast-iron pipe, the supplement states that reference should be made to the American Standard Specifications for Cast-Iron Pit Cast Pipe for Water or Other Liquids, ASTM A 44-41; ASA A21.2-1939, rather than to the American Water Works Association specifications. Reference to cast-iron bell and spigot fittings should include the AWWA and American Gas Association specifications, both of which are in active use for fittings, the Supplement adds. Specific references for sections 1, 2, and 3 of the code are listed.

In addition, the Supplement calls attention to changes in the following parts of Section 3 of the Code for Pressure Piping: Table 21; Par 325 (*c*); page 91, footnote; Table 27, footnote 2; and Table 34, Section 4.

Copies of the Supplement to the Code for Pressure Piping, B31.1a-1944, can be obtained from the American Standards Association at 10 cents each.

Eight New Members Join ASA

The American Standards Association welcomes eight new company members. They are:

Aircon Manufacturing Corporation, Kansas City, Kansas
Atlas Steel Construction Company, Irvington, N. Y.
Dalmo Victor, Inc, San Carlos, California
Detroit Tap & Tool Company, Detroit, Michigan
The E. F. Hauserman Company, Cleveland, Ohio
Hopkins Engineering Company, New York City
Northwestern University, Evanston, Illinois
N. A. Woodworth Company, Ferndale, Michigan

Work on X-Ray Safety Arouses Wide Interest

CONSIDERABLE interest has been expressed in the growing use of x-rays in industry, and increasing recognition is being taken of the use of both x-rays and radium as an inspection tool by many who have received the first draft of a proposed Safety Code for the Industrial Use of X-Rays. The proposed standard was prepared by ASA War Committee Z54 and has already been given wide circulation. After consultation with the National Bureau of Standards, the Division of Labor Standards requested the initiation of this project, and the project was approved June 16, 1944, by Dr. Osborne, chairman of the ASA Standards Council. A first draft, agreed upon at a meeting November 9, 1944, was sent to 1400 users, manufacturers, and others interested.

The correspondence received following circulation of the draft is almost unanimous in expressing agreement that the code is needed. It indicates satisfaction that steps have been taken to collect the necessary information and the factual background of experience for adoption into a set of specifications.

The code is intended to provide a basis for protection in the installation, operation, and maintenance of x-ray equipment. Included in the scope of the work is the development of similar protection against gamma rays produced by the use of radium.

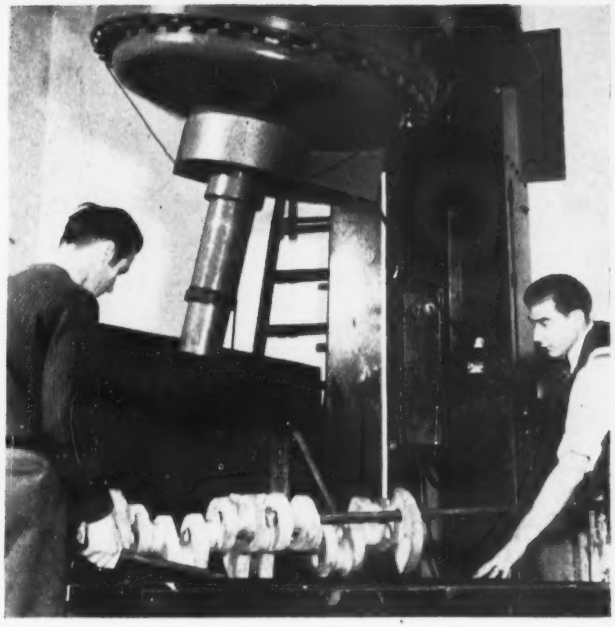
Increasing Use of X-Rays Raises Question of Safety

The increasing use of x-rays and gamma rays (radium) in photographic analysis and also in visual (fluoroscopic) analysis of an increasing number of raw materials and manufactured articles has made it advisable to investigate the extent of the hazards produced in such operations and to consider the advisability of codifying present knowledge for use by those who need it.

The use of x-rays as a tool in many new fields is still in the development stage. New techniques and new, more powerful equipment are being developed constantly. To cover the various phases of the work, the committee has appointed subcommittees to consider radium, protective methods, specific applications below 400 kilovolts, applications above 400 kilovolts, health provisions, and control of personnel. Subcommittees will develop sections under these headings to be added to the proposed standard as they become available.

The first draft, now under consideration, designated Z54/9, sets forth definitions of dosage, hazards, types of equipment, terms relating to installations, and similar items. It then proceeds to the working basis, general requirements for installation, recommendations for inspection and records, control of personnel, health provisions, and the basis for planning protection.

The decision of the committee to consider the limitations on dosage is fundamental, in view of the fact that necessary steps for protective measures can be more accurately determined once agreement upon the limitation on exposure has been reached. In this respect, the War Committee on Industrial Use of X-Rays, Z54, faces a problem comparable to that of the ASA Sectional Committee on Allowable Concentrations of Toxic Dusts and Gases, Z37, when setting minimum concentrations of industrial gases and dusts. In the case of gases or dusts, however, the manner of accumulation of harmful effects is by inhalation or ingestion, but in exposure to x-rays or gamma rays the effects are by irradiation. The effects of x-ray or gamma ray irradiation are cumulative and may not become apparent for long periods. The problem is made more difficult by the fact that there is no immediate effect upon the operator to warn him of his danger.



Adjusting a million-volt industrial x-ray unit to radiograph a crankshaft casting for a Ford V-8 tank engine.

Ignorance of Hazards Responsible for Accidents

The wide interest in the new code probably arises from the fact that the chief danger of the use of x-rays industrially does not lie in neglect or disregard of the danger inherent in its use, but rather in ignorance of the hazards involved and of their effects, and of possible protective measures. Manufacturers and distributors, as well as those technically versed in its use, practice extreme care in instruction, installation, and in the use of the equipment. Nevertheless, as a user has said, "the mere existence of the x-ray equipment of itself continually suggests new uses and naturally new exposures," and it is from changes of the location, power, position, protective materials, and operating technique that dangerous exposure may come.

It is hoped that the second meeting of War Committee Z54 will be held about March 1, 1945 at which time the comments received from the committee and from the canvass will be considered.

Standards Issued by Associations and Government

(For new American Standards see pages 40 and 50.)

For the information of ASA Members, the American Standards Association gives here a selected list of standards received by the ASA Library last month. The list below includes only those standards which the ASA believes are of greatest interest to Members.

These standards may be consulted by ASA Members at the ASA Library, or copies may be obtained from the organization issuing the standard. The address of the organization is included for your convenience in ordering.

Associations and Technical Societies

American Society for Testing Materials (260 South Broad Street, Philadelphia 2, Pa.)

The letter T following a designation indicates the standard is Tentative. Standards are 25¢ each.

Tentative Specifications for:

Air-Setting Refractory Mortars (Wet Type) For Boiler and Incinerator Services C178-44T
Asbestos Thermal Insulating Cement C194-44T
Asphalt Roofing Surfaced with Powdered Talc or Mica (including Emergency Alternate Provisions) D224-41T
Asphalt Roofing Surfaced With Coarse Mineral Granules (including Emergency Alternate Provisions) D249-44T
Asphalt Shingles Surfaced With Coarse Mineral Granules (including Emergency Alternate Provisions) D225-44T
Asphalt Roofing Surfaced With Powdered Talc or Mica (including Emergency Alternate Provisions) D224-44T
Diatomaceous Silica Thermal Insulating Cement C197-44T
85 Per Cent Magnesia Thermal Insulating Cement C193-44T
Expanded or Exfoliated Vermiculite Thermal Insulating Cement C196-44T
Extra Strength Clay Pipe C200-44T
Masonry Cement C91-44T
Mineral Wool Thermal Insulating Cement C195-44T
Mortar for Reinforced Brick Masonry C161-44T
Standard Strength Clay Sewer Pipe C13-44T
Wood To Be Used as Panels in Weathering Tests of Paints and Varnishes D358-44T

Tentative Methods of:

Testing Asphalt Roll Roofing, Cap Sheets, and Shingles D228-44T
Making and Curing Concrete Compression and Flexure Test Specimens in the Laboratory C192-44T
Testing Veneer, Plywood, and Other Wood and Wood-Base Materials D805-44T

Tentative Method of Test for:

Water Retention Efficiency of Methods for Curing Concrete C156-44T

Standard Specifications for:

Copper-Silicon Alloy Rods, Bars, and Shapes B98-44
Copper-Silicon Alloy Sheet and Strip for General Purposes B97-44
Copper Brazed Steel Tubing A254-44
Corrosion-Resisting Chromium and Chromium-Nickel Steel Plate, Sheet, and Strip for Fusion-Welded Unfired Pressure Vessels A240-44
Crushed Stone, Crushed Slag, and Gravel for Water-Bound Macadam Base and Surface Courses of Pavements D694-44
Free-Cutting Brass Rod and Bar for Use in Screw Machines (including Emergency Alternate Provisions) B16-44
Heat-Treated Wrought Steel Wheels A244-44
High-Strength Corrosion-Resisting Chromium-Nickel Steel Sheet and Strip (including Emergency Alternate Provisions) A177-44
High Tensile Strength Carbon-Silicon Steel Plates for Boilers and Other Pressure Vessels A212-44
Manganese-Vanadium Steel Plates for Boilers and Other Pressure Vessels A225-44
Medium-Carbon Seamless Steel Boiler and Superheater Tubes A210-44
Seamless Cold-Drawn Intermediate Alloy-Steel Heat-Exchanger and Condenser Tubes (including Emergency Alternate Provisions) A199-44
Seamless Steel Boiler Tubes for High-Pressure Service (including Emergency Alternate Provision) A192-44
Wide Selvage Asphalt Roofing Surfaced with Coarse Mineral Granules D371-44
Woven Cotton Fabrics Saturated with Bituminous Substances for Use in Waterproofing D173-44

Standard Specifications and Methods of Test for:

Alloy-Steel Castings for Structural Purposes (including Emergency Alternate Provisions) A148-44
Asbestos Tape for Electrical Purposes
Asbestos Roving for Electrical Purposes (including Emergency Alternate Provisions) D375-44

Standard Methods of:

Chemical Analysis of Limestone, Quicklime, and Hydrated Lime C25-44
Freezing-and-Thawing Test of Compacted Soil-Cement Mixtures D560-44
Making and Curing Concrete Compression and Flexure Test Specimens in the Field C31-44
Measuring Length of Drilled Concrete Cores C174-44
Securing, Preparing, and Testing Specimens from Hardened Concrete for Compressive and Flexural Strengths C42-44
Testing Electrical Porcelain D116-44
Testing Wool Felt D461-44

Standard Methods of Test for:

Abrasion of Coarse Aggregate by Use of the Los Angeles Machine C131-44
Coefficient of Linear Thermal Expansion of Plastics D696-44
Compressive Strength of Hydraulic-Cement Mortars C109-44
Fineness of Wool D419-44
Flammability of Plastics Over 0.050 In. in Thickness D635-44
Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading) C78-44
Knock Characteristics of Motor Fuels D357-44
Normal Consistency of Hydraulic Cement C187-44
Rayon Staple D540-44
Saponification Number of Petroleum Products by Color-Indicator Titration D94-44
Soundness of Hydraulic Cement Over Boiling Water (Pat Test) C189-44
Sulfur in Petroleum Oils by Bomb Method (including Emergency Alternate Provisions) D129-44
Tensile Strength of Hydraulic-Cement Mortars C190-44
Time of Setting of Hydraulic Cement by the Vicat or Gillmore Needles C191-44
Viscosity by Means of the Saybolt Viscosimeter D88-44

Standard Methods of Testing and Tolerances for:

Certain All-Cotton and Cotton-and-Rayon Fine Fancy Goods D680-44
Certain Fine Staple Cotton Gray Goods D679-44
Cotton Yarns D180-44
Spun Rayon Yarns and Threads D507-44
Woolen Yarns D403-44

Standard Definitions of:

Terms Relating to Concrete and Concrete Aggregates C125-44
Terms Relating to Lime C51-44

ASTM Definitions and Glossary of Terms Relating to Textile Materials, Reprint from Copyrighted Publications of the ASTM

Standard Volume Correction Table for Tar and Coal-Tar Pitch D633-44

Tentative Symbols for Heat Transmission C108-44T

U. S. Government

(Wherever a price is indicated, the publication may be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C. In other cases, copies may be obtained from the government agency concerned.)

National Bureau of Standards (Washington 25, D. C.)

Commercial Standards

Boys' Pajamas Sizes (Woven Fabrics), (Second Edition) CS106-44 5¢

Standard Stock Ponderosa Pine Doors CS120-44 10¢

Women's Slip Sizes (Woven Fabrics) CS121-45

Simplified Practice Recommendations

Clay Tiles for Floors and Walls R61-44 10¢

Iron and Steel Relief Valves for Petroleum, Chemical and General Industrial Services R205-44 5¢

Federal Specifications Executive Committee (U. S. Treasury Department, Washington, D. C.)

Federal Specifications are prepared for use by all government departments and establishments in their purchases. Copies are available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. at 5 cents each. Requests should be accompanied by cash, check, or money order.

As a service to Company Members, the ASA maintains a sale file of all Federal Specifications. These specifications can be purchased from the ASA Sales Department.

Federal Specifications

Bars: Chisel, Crow Pinch, and Wrecking (Amendment 3) GGG-B-101 November 1, 1945

Belts and Belting: Flat, Leather, Vegetable-Tanned (Amendment 2) KK-B-201a January 1, 1945

Belting: Conveyor (Rubber) (Amendment 4) ZZ-B-206 November 1, 1945

Binders; Loose-Leaf, Ring-Type (Amendment 1) (superseding E-UU-C-346, 2-25-43) UU-B-346 January 15, 1945

Blades: Hack Saw (Hand) (new) GGG-B-451 January 1, 1945

Brass, Naval: Bars, Plates, Rods, Shapes, Sheets, and Strips (superseding QQ-B-636) QQ-B-636a December 15, 1944

Brushes: Radiator, Bronzing (Amendment 3) (superseding Amendment 2 E-H-B-451, 2-27-42) H-B-451 January 15, 1945

Cabinets; Filing, Insulated, Fire-Resisting (Amendment 1) AA-C-23 December 15, 1944

Calcium Carbide (Amendment 4) O-C-101 January 15, 1945

Calcium-Chloride: Hydrated, Technical Grade (Amendment 1) O-C-106a January 1, 1945

Clamps and Hand-Screws (Amendment 3) GGG-C-406 January 15, 1945

Copper-Phthalocyanine-Blue; Dry (Paint Pigment) (new) TT-C-610 January 1, 1945

Force-Cups: Plumbers' (Amendment 1) ZZ-F-566 January 15, 1945

Furniture and Cabinets: Office, Sectional, Steel AA-F-791b December 15, 1944

Fuses: Cartridge, Inclosed, Renewable (Fusible Links Not Separately Inclosed); And Renewal-Links Therefore W-F-203a January 1, 1945

Glue: Resin-type (Liquid and Powder) (Amendment 1) C-G-496 February 1, 1945

Goggles: Eyecup, Protective, Impact-Resisting (Chippers', Grinders', Etc) (Amendment 1) GGG-G-501b February 2, 1945

Graduates: Glass, Conical DD-G-666 January 15, 1945

Handles, Hickory: Striking-Tool (Amendment 1) NN-H-93 December 15, 1944

Handles: Wood, Miscellaneous (For) Tools NN-H-106 January 6, 1945

Hose: Steam (Amendment 3) ZZ-H-541 February 2, 1945

Leather; Rigging (Amendment 1) KK-L-241a January 1, 1945

Levels and Plumbs (superseding Amendment 2 and E-GGG-L-211, 4-9-42) GGG-L-211 January 1, 1945

Metals; General Specification For Inspection Of Supplement A QQ-M-151 December 15, 1944

Nickel; Anodes (Amendment 1) QQ-N-265 December 15, 1944

Overshoes; Rubber (Amendment 3) ZZ-O-841 January 1, 1945

Paint; Ready-Mixed, Black (superseding TT-P-61) TT-P-61a January 1, 1945

Pencils, Mechanical; Leads and Erasers (Amendment 1) (superseding E-SS-P-186, 8-24-42) SS-P-186 January 1, 1945

Pliers; and Nippers (Amendment 2) (superseding Amendment 1) GGG-P-471 December 15, 1944

Pulleys; Eye, Single-Sheave, With Attachment For Balkan Frame, (For) Hospitals (new) FF-P-806 January 1, 1945

Ribbons; Typewriter (Amendment 4) (superseding Amendment 3) DDD-R-311a December 15, 1944

Remover; Paint and Varnish (Organic-Solvent Type) TT-R-251a January 1, 1945

Scales, Weighing; General Specification (Amendment 1) AAA-S-121b January 1, 1945

Scissors and Shears (Amendment 1) (superseding E-GGG-S-101b, 7-7-42) GGG-S-101b January 1, 1945

Shovels (Scoop, Spades and Spoons) (Amendment 3) GGG-S-326 January 15, 1945

Titanium-Dioxide; Dry (Paint-Pigment) (Amendment 1) TT-T-425 January 1, 1945

The following Emergency Alternate Federal Specification is cancelled: E-RR-C-96a-Cans, Steel (Tinned-Plate, Terne-Plate, and Black Sheet); Friction-Covers (dated Feb. 10, 1943)

ASTM Compiles Volume Of Petroleum Standards

The latest compilation of all ASTM specifications, methods of test, and definitions pertaining to petroleum products, published by the American Society for Testing Materials recently, includes some 80 standards, 56 of which have been approved by the American Standards Association as American Standard. With supplementary material, the book comprises more than 500 pages.

The large number of test methods included in the compilation provide authoritative procedures for determining properties of a wide range of petroleum products, for example, acid heat of gasoline, aniline point, burning quality of various products, carbon residue, color, distillation, specific gravity, knock characteristics of fuels, melting point, etc.

Specifications cover fuel oils and gasoline, Stoddard solvent, various types of asphalt, and others.

In addition to the standards, the current report of the Society's Committee D-2, which is responsible for most of the standards, is given. Proposed standards are included, such as the proposed saponification number of petroleum by electrometric titration; proposed conversion tables for petroleum oils of metric tons to long tons and short tons; proposed methods of analyzing petroleum sulfonates; and a test for potential gum in aviation gasoline. An emergency method of test for color of Army motor fuel, and certain emergency provisions, are also in the book.

The *ASTM Standards on Petroleum Products and Lubricants (with related information)* can be obtained from the American Society for Testing Materials, 260 S. Broad Street, Philadelphia 2, Pa., at $2.75 each, with reduced prices on orders in quantity.

ASA Standards Activities

American Standards

American Standards Available

For new American Standards available during the past month, see page 40.

American Standards Approved Since Our January Issue

Abrasion of Coarse Aggregate by Use of the Los Angeles Machine (Revision of ASTM C 131-39; ASA A37.7-1943) ASTM C 131-44; ASA A37.7-1944

Ductility of Bituminous Materials (Revision of ASTM D 113-39; ASA A37.11-1943) ASTM D113-44; ASA A37.11-1944

Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses (Revision of ASTM A 120-42; ASA G8.7-1943) ASTM A 120-44; ASA G.7-1945

Carbon-Steel Plates for Stationary Boilers and Other Pressure Vessels, Specifications for (Revision of ASTM A 70-42; ASA G29.1-1942) ASTM A70-44; ASA G29.1-1945

Carbon-Silicon Steel Plates of Ordinary Tensile Ranges for Fusion-Welded Boilers and Other Pressure Vessels, Specifications for (Revision of ASTM A 201-43; ASA G31.1-1942) ASTM A 201-44; ASA G31.1-1945

Chrome-Manganese Silicon (CMS) Alloy-Steel Plates for Boilers and Other Pressure Vessels, Specifications for (Revision of ASTM A 202-39; ASA G32.1-1942) ASTM A202-44; ASA G32.1-1945

Low-Carbon Nickel-Steel Plates for Boilers and Other Pressure Vessels, Specifications for (Revision of ASTM A 203-42; ASA G33.1-1942) ASTM A 203-44; ASA G33.1-1945

Methods of Testing Wool Felt (Revision of ASTM D 461-40; ASA L16.1-1942) ASTM D 461-44; ASA L16.1-1945

Molybdenum-Steel Plates for Boilers and Other Pressure Vessels, Specifications for (Revision of ASTM A 204-42; ASA G34.1-1942) ASTM A 204-44; ASA G34.1-1945

High Tensile Strength Carbon-Silicon Steel Plates for Boilers and Other Pressure Vessels (Plates 4½ In. and Under in Thickness), Specifications for (Revision of ASTM A 212-39; ASA G35.1-1942) ASTM A 212-44; ASA G35.1-1945

Carbon-Steel Castings for Miscellaneous Industrial Uses, Specifications for (Revision of ASTM A 27-42; ASA G50.1-1943) ASTM A 27-44; ASA G50.1-1945

Sponsor: American Society for Testing Materials

Standards Being Considered by ASA for Reaffirmation and Reapproval

Basic Sulfate White Lead, Specifications for (ASTM D 82-41; ASA K47-1941)

Concrete Building Brick, Specifications for (ASTM C 55-37; ASA A75.1-1942)

Concrete Masonry Units, Methods of Sampling and Testing (ASTM C 140-39; ASA A84.1-1942)

Concrete Masonry Units for Construction of Catch Basins and Manholes, Specifications for (ASTM C 139-39; ASA A73.1-1942)

Hollow Non-Load-Bearing Concrete Masonry Units, Specifications for (ASTM C 129-39; ASA A80.1-1942)

Mild Steel Plates, Specifications for (ASTM A 10-39; ASA G20-1939)

Sand-Lime Building Brick, Specifications for (ASTM C 73-39; ASA A78.1-1942)

Shrinkage in Laundering of Woven Cotton Cloth, Reaffirmation of American Standard Methods of Test (Reaffirmation of ASTM D 437-36; ASA L10-1936)

Steel for Bridges and Buildings, Specifications for (ASTM A 7-42; ASA G24-1942)

Structural Clay Floor Tile, Specifications for (ASTM C 57-39; ASA A77.1-1942)

Structural Clay Tile, Methods of Sampling and Testing (ASTM C 112-36; ASA A83.1-1942)

Structural Rivet Steel, Specifications for (ASTM A 141-39; ASA G21-1939)

Structural Silicon Steel, Specifications for (ASTM A 94-39; ASA G41.1-1942)

Sponsor: American Society for Testing Materials

American War Standards

American War Standards Available

For new American War Standards available during the past month, see page 40.

American War Standards Approved Since Our January Issue

Acme Screw Threads B1.5-1945

Color Code for Lubrication of Machinery Z47.1-1945

Photography and Cinematography Z52

- Emulsion and Sound Record Positions in Projector for Direct Front Projection of 35-Mm Sound Motion Picture Prints Z52.42-1945
- Sound Records and Scanning Area for 35-Mm Sound Motion Picture Prints Z52.36-1945

Protective Occupational (Safety) Clothing L18

- Leather One-Finger Mittens L18.18-1945
- Leather Mittens L18.19-1945
- Asbestos One-Finger Mittens L18.20-1945

War Standards Under Way

Cylindrical Fits B4.1

Linemen's Rubber Protective Equipment J6

Machine Tool Electrical Standards (Revision of C.74-1942)

Photography and Cinematography Z52

- Specification for Class II Service Model 16-Mm Sound Motion Picture Projection Equipment Z52.13
- Specification for Photographic Contact Printer Z52.18
- Specification for Photographic Enlarger Z52.23
- Specification for Projectors of Slides and Slide Film Z52.28
- Specification for 35-Mm Slide Film for Use in Still Picture Projectors Z52.29
- Specification for Leaders, Cues and Trailers for 16-Mm Sound Motion Picture Release Prints Processed from Original 16-Mm Material Z52.31
- Specification for Warble Test Film Used for Testing 16-Mm Sound Motion Picture Equipment Z52.32
- Specification for 16-Mm Motion Picture Film Reels Z52.33
- Dimensions for Film-Reel Spindles for 16-Mm Sound Motion Picture Equipment Z52.34
- Method of Determining Printer Loss in 16-Mm Sound Motion Picture Prints Z52.40
- Sizes of Photographic Projection Screens Z52.41
- Sound Transmission of Perforated Projection Screens Z52.44
- Whiteness of Photographic Projection Screens (Semi-Diffuse Type) Z52.45
- Brightness Characteristics of Photographic Projection Screens (Semi-Diffuse Type) Z52.46
- Specification for Photographing Aperture of 16-Mm Sound Motion Picture Cameras Z52.47
- Specification for Photographing Aperture of 16-Mm Sound Motion Picture Cameras Z52.48
- Specification for Field of View of 16-Mm Motion Picture Camera View Finders Having Parallax Adjustment Z52.49
- Specifications for Registration Distance for Mounting Dimensions of 16-Mm Motion Picture Camera Lenses Z52.50
- Distance Calibration of 16-Mm Motion Picture Camera Lenses Z52.51

Mounting Dimensions for 16-Mm Camera and Recorder Film Magazines Z52.52
Location of Synchronization Marks on 35-Mm Motion Picture Release Negatives Z52.53
Location of Synchronization Marks on 16-Mm Motion Picture Release Negatives Z52.54
Method of Determining Resolving Power of Slide Film Projector Lenses Z52.55
Specification for Portable Photographic Projection Screens (Spring-Roller-Mounted) Z52.56
Specification for Photographic Projection Screens (Springless-Roller-Mounted) Z52.57
Specification for Photographic Projection Screens (Folding for Portable Frame Mounting) Z52.58
Specification for Photographic Projection Screens (Auditorium Frame Mounting) Z52.59
Method of Determining Noise Level of Motion Picture Cameras Z52.60
Photographic Filter Terminology and Nomenclature Z52.61
Protective Occupational (Safety) Clothing L18
Women's Safety and Powder Caps L18.13
Flame-Resistant Fabric
Aprons (Bib Type) L18.21
Leggings (Knee and Hip Length) L18.22
Coats L18.23
Pants L18.24
Coveralls L18.25
Spats L18.26
Leather Spats L18.27
Asbestos Spats L18.28
Radio Noise, Methods of Measuring C63
Resistance Welding Equipment C52
Resistance Welding Electrodes and Electrode Holders C52.3
Specifications for Design and Construction of Resistance Welding Equipment C52.4
Safety Color Code for Marking Physical Hazards Z53
Safety Code for the Industrial Use of X-Rays Z54

News About ASA Projects

Safety Code for Grandstands (Z20)—

The drafting committee to prepare a proposed standard providing safety requirements in places of outdoor assembly met January 19. As a result, a revised draft will be circulated to the sectional committee about February 15. A meeting of the full committee will be held shortly thereafter.

Building Code Requirements for Light and Ventilation (A53)—

A proposed standard for light and ventilation is expected to be submitted by Sectional Committee A53 to the sponsors—the U. S. Public Health Service and the Federal Housing Administration—within the next 60 days. Final consideration is under way in the sectional committee.

Committee Asks Comments On Draft of Safety Color Code

A draft of a proposed standard Safety Color Code for Marking Physical Hazards has now been prepared by ASA War Committee Z53 and is being circulated to a large group of those concerned for comment and criticism in order to determine whether it is acceptable.

In preparing the draft, the War Committee reviewed other standards that at present call for the use of color, as well as many private color codes which have been developed in recent months. This project was requested by the War Department, and it is understood that a standard is needed as soon as possible because of the beneficial effect it would have in promoting safety in industries connected with the war effort. For this reason, the committee has prepared the present draft on the basis of the colors upon which there appears to be an agreement at the present time. This has been done with the understanding that controversial ideas will be given further study in order that the standard as approved may be revised as soon as agreement is reached on additional color items.

Paint manufacturers, or other manufacturers interested in producing colored materials that might apply to this problem, safety engineers, insurance companies, or others interested in the application of these colors are invited to write to the ASA as soon as possible for copies of the draft. Comments and criticism will be welcomed.

New Members and Alternates On ASA Standards Council

Six new members and seven new alternates of the Standards Council of the American Standards Association were appointed recently to fill vacancies created by expiring terms. Those appointed were:

U. S. Department of Agriculture—

Miss Ruth O'Brien of the Bureau of Human Nutrition and Home Economics, Agricultural Research Administration, to succeed Dr. Louise Stanley as member.

C. G. Kilborne of the Rural Electrification Administration, USDA, to succeed H. S. Betts, senior engineer, Forest Service, as alternate.

American Iron and Steel Institute—

T. F. Olt of American Rolling Mill Company to succeed J. O. Leech of Carnegie-Illinois Steel Corporation as member.

C. M. Parker, secretary of the Technical Committee, AISI, to succeed O. U. Cook of Tennessee Coal, Iron & Railroad Company as member.

H. H. Hottell of Youngstown Sheet & Tube Company and Henry Wysor of Bethlehem Steel Company to succeed C. M. Parker of AISI and J. J. Shuman of Jones & Laughlin Steel Corporation as alternates.

American Petroleum Institute—

D. V. Stroop, secretary of the Division of Refining, American Petroleum Institute, to succeed Dr. R. P. Anderson, former secretary of the API Division of Refining, as member.

American Society for Testing Materials—

J. R. Townsend of Bell Telephone Laboratories, Inc, to succeed H. H. Morgan, of the R. W. Hunt Company, as member.

Lumber Manufacturers Group—

Henry Bahr of National Lumber Manufacturers Association to succeed B. R. Ellis of Timber Engineering Company as alternate.

National Conservation Bureau—

J. L. Jones of Employers Liability Assurance Corporation as alternate.

U. S. Navy Department—

Commander K. S. Masterson of the Bureau of Ordnance, U. S. Navy, to succeed Commander E. N. Parker as alternate representing the Chief of the Bureau of Ordnance.

Up to Date . .

American Standard

Sound Level Meters for Measurement of Noise and Other Sounds

Z24.3-1944

25¢ per copy

This new edition supersedes a tentative standard issued in 1936, and is up to date with acoustical practice in sound measurement.

Design objective and tolerance curves for flat response-frequency characteristics of sound level meters are now included.

●

Other American Standards for Work in Acoustics

Acoustical Terminology, Z24.1-1942 ..... 25¢

Noise Measurement, Z24.2-1942 ..... 25¢

Calibration of Microphones, Z24.4-1938 ..... 25¢

Order American Standards from:

American Standards Association

70 East 45th Street New York 17, N. Y.